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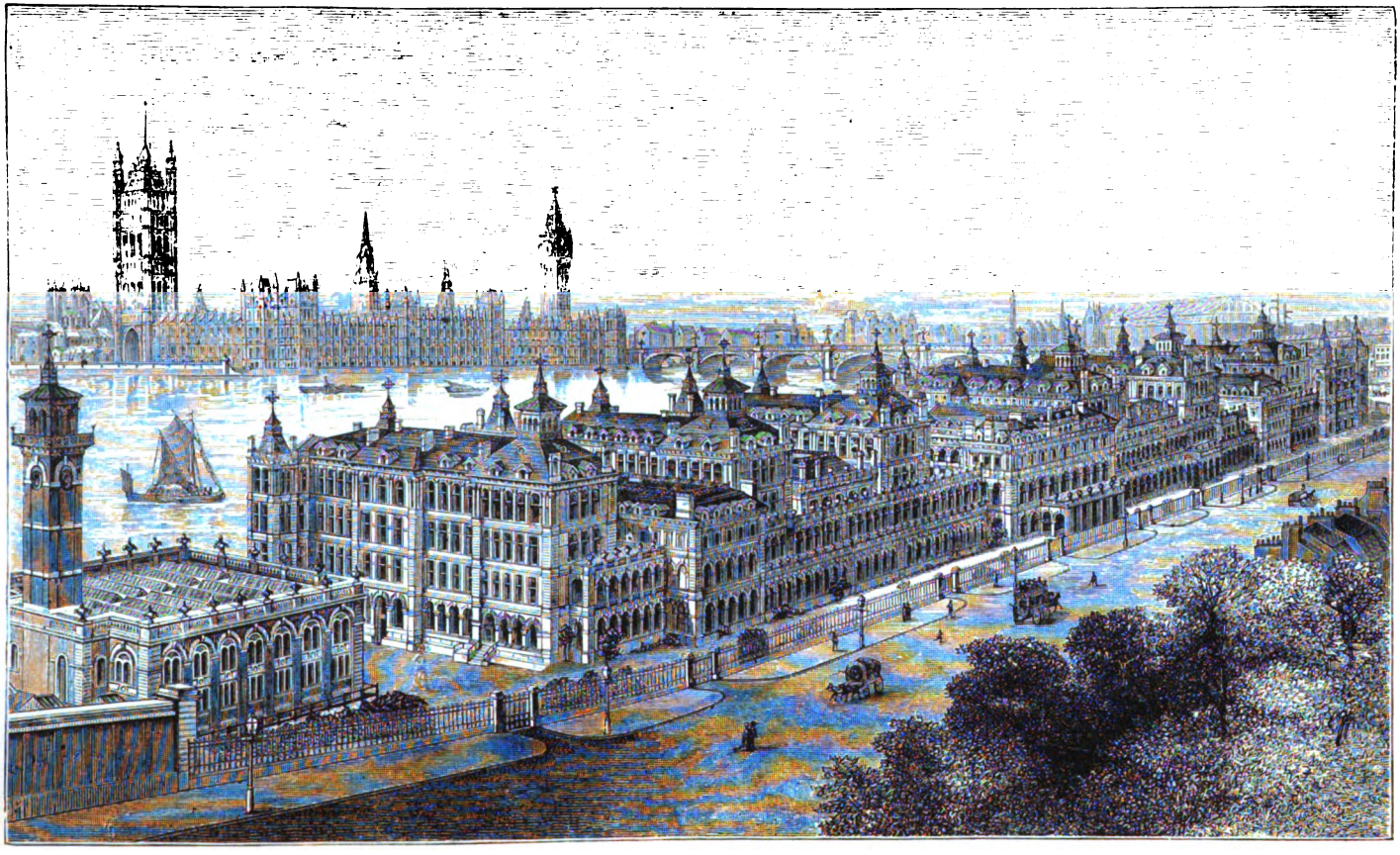

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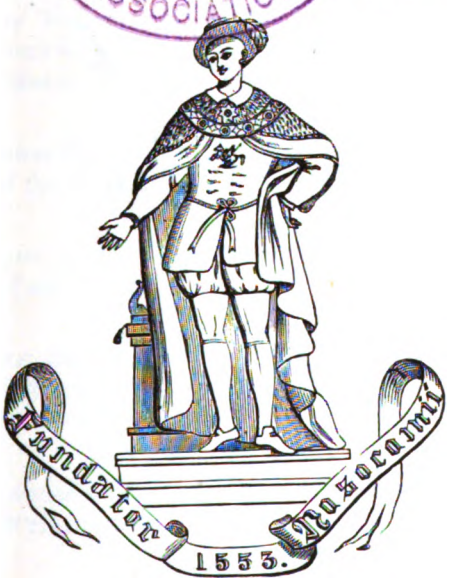


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# SOME RECORDS OF SURGICAL EXPERIENCE,

BEING A CONTRIBUTION TO THE

## COLLECTIVE INVESTIGATION OF DISEASE.

(*Continued from 'St. Thomas's Hospital Reports,' N.S., Vol. XIII, p. 26.*)

By F. LE GROS CLARK, F.R.S.,
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*Note-taking.—Feigned diseases.—Use of the catheter.—Treatment of wounds.—Headache.—Varicose veins and Varicocele.—Heredity.*

*On Note-taking.*—There is no knowledge, for practical use, to be compared with that which is acquired by personal observation. In the application of this remark to the practice of medicine or surgery I do not mean that he is the best practitioner who *only* accumulates precedents for future use. If he trusts to this sort of knowledge alone he will constantly find himself at a loss, when anything new is presented to him; but he must build up and afterwards fortify his principles by personal observation, aided of course by that which he has acquired from the recorded labours of his professional teachers and brethren. This learning is a life-long occupation; and the best method of conducting it should be acquired early, *i. e.* during student-life. Now, of the means of careful observation there is none more valuable than taking notes of cases; all our best practical works contain ample evidence of this; and



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an opinion gains immensely in value where it can be supported by recorded cases.

Case-taking seems easy and simple, like many other things when they are well done; but it really requires careful training and attention to rules. For the practical purposes to which I am referring, amplitude alone is not a desideratum: the history and notation of the various changes should be concise and clear. It is a common fault to encumber the notes of a case with too many details, and to give equal prominence and importance to trifles and to the salient and characteristic features of a disease or injury. It is a useful habit to record, from time to time, the impression on the mind which is made by special signs or symptoms in the progress of a case;—to mark the influence which these indications have upon our opinion, in order that we may afterwards, retrospectively, judge of the correctness of our views: this, indeed, is a valuable element in self-education. Certainly a book should be kept in which to enter the rough notes taken on visiting a patient; but this permanent record should not vary essentially from the original, except for the sake of clearness and precision. Indeed it is preferable to eschew altogether such rough notes as require copying; and this may be accomplished by employing a definite-sized paper which can afterwards be preserved in a book or bound; for freshly recorded impressions are generally more graphic and more true, than the same transferred, in an amplified and more polished form, into the book. It is remarkable how often, in thinking over a case, and dwelling on certain peculiarities, we are apt to modify our impressions, and not always for the better: for an undue value may be given to certain features in a case in the absence of others which equally impressed us in the presence of the patient; and which were really entitled to as much consideration, if they had not been thus forced into the background.

There are certain headings which should be uniformly present in every case, such as name, age, occupation, habits, and general or special appearance of the patient: also the previous history and existing condition of the ailment for which advice is sought. It is desirable to keep separate the subjective and objective parts of a case; in other

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words the symptoms and signs: and when these notes are made, an expression of opinion, or diagnosis, should be recorded, for reference to in the future treatment. This suffices for the general run of cases; but in those of doubtful character, where the diagnosis is obscure or absolutely veiled, it is needful to be more particular in noting details, whether apparently important or otherwise: for our estimate of the value of signs or symptoms may be entirely at fault, until we have some key to their actual and relative diagnostic worth.

In the investigation of an injury the surgeon cannot be too particular in his inquiry as to how the accident occurred. The direction of a blow, the position of the limbs or body in falling; the character of the ground, the amount of momentum, or the interposition of any qualifying influence may aid importantly in the diagnosis. The soiled clothes of the patient often supply a hint, or even positive information to the surgeon, which he otherwise fails to obtain: for the alarm or confusion accompanying an accident often incapacitates the subject of it from giving an accurate or even a true account; and the testimony of bystanders, though not to be overlooked, cannot be always depended on. These suggestions may often be verified in dislocations, especially of the shoulder-joint, the diagnosis of which is much assisted by attention to these details; which should, therefore, be registered for future as well as present help. In injuries of the head we are often dependent on the information we thus obtain: *e. g.* the hardness or softness of the ground, with which the vertex comes in contact in a fall upon the head, may point to a fracture of the vault or the base of the skull; just as a fall on the palm of the outstretched arm or on the shoulder may suggest a dislocation or fracture of the neck of the humerus.

In many instances it is unnecessary to encumber the record with a daily entry, and superfluous to notice conditions in detail which are unvarying. But in others, even an hourly record may be desirable, as in the varying condition of pyæmia, where the temperature and state of the patient's secretions may be noted by an intelligent nurse. A note should be kept associating any particular change of treatment and its apparent or presumed result; and by comparing repeated observations of this sort, we learn to distinguish between the *post hoc* and the

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*propter hoc*;—between what is simple coincidence and what is related as cause and effect. Cases are worth taking if it be only for the practical value of the knowledge thus acquired.

In surgical as well as medical cases it is often desirable to make a note of any peculiarity of temperament, natural or acquired, or of any hereditary tendency which may exist; but the value of these features varies greatly; and too much importance must not be attached to the statements of patients or their friends on these points, as they are often misleading. Indeed this remark applies to the history of cases generally, and the surgeon must trust more to his own tact in eliciting information than to the gratuitous observations or conjectural assertions of others. It is always better to avoid leading questions in sifting a case, unless the nature of the circumstances renders such a course necessary; and it is generally easier to compile the notes that are required from a narrative, than from answers to categorical questions, which are apt to be cóloured by our own, perhaps premature, conclusions.

It is scarcely necessary to remark that, in criminal cases, it is imperatively requisite to note every particular, with much less regard to apparent relative importance. Notes of everything observed should be preserved in their original form, and without being transcribed; and facts and opinions, if any of the latter are recorded, should be kept entirely separate. The best way, indeed, is to include no opinions in such original notes; but to append them to any private memorandum that may be kept, and which is not intended for the public eye. Such impressions are, however, valuable whilst all the circumstances are fresh; more valuable than after the lapse of time and the introduction of fresh elements into the case may have influenced our opinion.

The thoroughness with which post-mortems are made may depend very much on the nature of the case. A complete and critical examination of every viscus is necessarily tedious and occupies much time; and for this and other obvious reasons is not expedient in private practice. For public record the investigation cannot be too searching; but for private use it is generally sufficient to direct attention to the supposed seat of mischief. Negative results should, however, be noted: *i. e.* the absence of any morbid appearance in any organ

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examined. The best record of the microscopic characteristics is the preservation of a specimen of the morbid product; or, in its absence, a sketch of appearances noticed. Indeed, this latter remark applies more generally in note-taking; for a good sketch expresses far more, and in a shorter compass, than notes: and, I may remark that some facility in this respect may be acquired, with a little practice, where the gift is not possessed naturally.

*Feigned Diseases.*—Shamming falls more under the notice of the physician than of the surgeon, because it is more easy to feign subjective than objective symptoms. The reasons for malingering are numerous; but the variety of forms it assumes is still greater. Many of these reasons may be traced; but the practitioner would err if he assumed that the absence of all apparent reason is conclusive as to the reality of the symptoms. Some of the most obstinate forms of shamming appear to be without any assignable motive, except it be the pleasure of deceiving, or that of a morbid desire to excite sympathy, to stimulate speculation, or to create surprise; motives which, to ordinary apprehension, bear no proportion to the self-inflicted suffering or confinement they entail.

In some instances the feigning may be only an exaggeration of some existing trouble, but for a very definite object, viz. gain. Of this class is a large proportion of the claimants for compensation after railway accidents. In truth this exaggeration seems to be conventionally accepted as honorable and honest; but it has a very demoralising influence on those who practise the deception and on all who uphold them. Exaggeration is naturally more difficult to expose than symptoms entirely coined by a patient; especially when, by repeated leading questions, he is prompted to answer in a consistent way. I believe that many persons are, in this way, induced to believe that from which, under other circumstances, their sense of truth would revolt.

The alliance between hysteria and malingering renders it difficult in many instances to dissociate them. Of course I recognise hysteria as a disease, and what I mean is, that hysterical people, both male and female—the subjects of neurocachexia if I may be allowed the word—are apt to be fanciful,

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to exaggerate their symptoms, and to accept and even nurse any that are suggested to them. I suppose this is why hysteria is often regarded, popularly, as a controllable complaint, existing chiefly in the morbid imagination of the patient, and nourished by a craving for sympathy.

Generally speaking the reason for shamming is readily discoverable in men. There is some palpable object to be obtained, some direct pecuniary advantage, or escape from that which is disagreeable. But with women other and more hidden motives very often determine the deception; and the tact and ingenuity, as well as the knowledge and experience, of the medical attendant are often put to a severe test, where the fraud is artfully devised and tenaciously sustained. Every case will demand its own special management, and success will depend on the ability of the doctor to out-manœuvre the patient. He possesses certain advantages which, if used skilfully, generally suffice to unmask the shammer; but not always so: for the power of adaptation to circumstances manifested by these people, their adroitness in parrying attacks, and their sagacity in divining the object of the investigator, is sometimes as marvellous as their tenacity of purpose in adhering, amid surrounding difficulties, to the falsehood they are acting. The advantages to which I allude are, in the first place, an acquaintance with the probability of the history given of the origin and course of the asserted complaint; and also the consistency between the existing symptoms and what they are supposed to denote. A flaw may thus be discovered which would satisfy the surgeon that he has to deal with a feigned disease.

Many of the more ordinary physical signs by which a patient's condition is tested may be masked, such as general appearance and expression, the state of the tongue and of the secretions; but the pulse is not so easily influenced, if sufficient time has been allowed to elapse, in the doctor's presence, to permit any induced quickening of the heart's action to subside. During sleep the patient may betray the truth; and an anæsthetic is an admirable means of exposing any assumed deformity or malposition of a limb. It would not be difficult, but it is superfluous, to exemplify these remarks: but I would observe that great caution should be exercised in adopt-

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ing any coarse or painful means of arriving at the truth. Where there is doubt it is expedient, as in legal matters, to give the patient the benefit of that uncertainty. It is one thing to apply the test of suffering to remove a doubt, and another to use some severity in order to compel a patient to acknowledge a detected deceit. Threats of such severity in a patient's hearing, but apparently not designed for him to hear, are often productive of the desired result.

One feigned disability, that of micturition, in females is, I fear, more often erotic than hysterical, and the indulgence simply fosters the deception. I have known the bladder enormously distended under these circumstances, where there was reason to believe the retention was voluntary; indeed, I suspect there are very few such cases where it is not so.

*Use of the Catheter.*—If I were asked for some simple test of manipulative dexterity in a surgeon, I should be disposed to name that of passing a catheter. Few things appear easier to the observer than this operation, when it is well done: but it is painful to witness the clumsy way in which this instrument is sometimes handled, regardless of the delicacy of the textures which are operated on, or of the relative anatomy of the structures invaded. Nay, the operation may be completed with the same apparent facility by two persons, and yet the patient will afterwards reject the services of one of them, and place himself in the hands of the other without hesitation. What is it that constitutes this difference? It is gentleness: and this quality is quite compatible with firmness where an obstacle is to be overcome. Roughness and ignorance may do, and have done, irreparable mischief, by mismanagement of a stricture or by laceration of a healthy urethra; and this arises as often from the employment of ill-selected instruments as from ignorance in using them.

The structure, capacity, curves and relations of the urethra ought to be most carefully studied throughout; but there are certain parts which are more important than others. I cannot say that I attach value to the muscularity of the urethral wall as an obstacle to the introduction of the catheter; but I think spasm of the accelerator urinæ muscle does sometimes act in this way, though not to an extent which may not be

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overcome by a little patience and care, with gentle friction of the perinæum. I believe also that the prostatic portion of the passage may be contracted through the agency of the muscular organ which surrounds it. In both cases the stimulus is the presence of the catheter, and the action is reflex and not long sustained. Doubtless the anterior fibres of the levator ani may be similarly excited to act. I do not, however, believe that this active obstruction is enduring, though I am convinced that hasty efforts to overcome it are fraught with mischief.

The passage then to and through the bulb is simple and easy where no stricture exists; but immediately beyond this point the inexperienced operator gets into difficulty. The trouble he experiences arises from a combination of causes. The urethra becomes slightly contracted here, though not sufficiently to arrest the progress of the instrument: but it is fixed and suspended in close proximity to the junction of the pubic bones; and the curve of the canal at this point is rather sharp: therefore, if the handle of the catheter be depressed too soon its point is driven against the pubic arch; and, if violence be used, injury to the passage is likely to accompany failure, when a metal instrument, especially one of small size, is employed. This is a recognised cause, indeed it is the usual explanation, of the miscarriage of this simple but delicate operation, whatever may be the reason assigned by the operator. Certainly the most convenient position in which to pass a catheter is the upright one, the patient standing with his back against a wall. If the patient be nervous and likely to faint, of course this posture would be unsuitable. If recumbent, the legs should be well separated, and the posture perfectly straight. A metal instrument should be warmed and well oiled, and the penis should be drawn forwards to keep the canal on the stretch, whilst the catheter glides along it, till the handle begins to fall; its point being, meanwhile, pressed gently against the lower wall of the passage. If there be any obstruction at this stage I invariably place my forefinger in the perinæum to guide the catheter; and carry the finger, onward, within the sphincter, till the bladder is reached: for the course of a metal instrument may be generally traced through the prostate.

When I was young metallic catheters were used almost

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exclusively: but usually the gum elastic instrument is to be preferred as safer and as easy to pass. It is with small silver instruments that most mischief is done: happily the results of laceration are not so often serious as might be anticipated; I suppose because the valvular form of the injury to the mucous membrane does not readily permit extravasation to take place: but slow, insidious infiltration of the submucous areolar tissue, with walled-in perinæal abscess, is the more common sequence when mischief does result. I may remark that the amount of injury is not to be measured by the blood that is lost on these occasions, for some patients will bleed very freely where no violence is used, and where no serious injury can have been inflicted: and the converse is also the case.

I have no intention of dealing with the subject of permanent stricture; but will just glance at two or three forms of obstruction demanding speedy mechanical or operative interference.

A common and troublesome class of cases requiring assistance is that in which sudden retention, or, more strictly, sudden incapacity to micturate occurs in the subject of a permanent stricture. The patient will probably state that he was able to pass his water previously, though in a contracted or tortuous stream, and on further investigation it will be found that he has probably been indulging too freely in wine or beer, and neglected to attend to the demands of nature, until he found that he was unable to relieve himself. What is the explanation of such a case? It is generally attributed to spasm superadded to organic stricture. There may be, and I think there frequently is, some spasm of the accelerator muscle, but I do not believe this constitutes the obstruction which is often met with in passing a catheter of any form or size. The inability to micturate is chiefly due to over-distension of a neglected bladder and consequent loss of contractile power; whilst the obstacle to the introduction of an instrument is a zigzag stricture, which permits the urine to flow in a stream, but is not accessible to a catheter which cannot adapt itself to the tortuosity of the canal. To afford relief in these cases, which is urgently needed, it is a common practice to recommend a warm bath and to give opium. Of the former I cannot say I entertain a high opinion: a hot fomen-

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tation to the perinæum is equally serviceable. Opium, if given in a full dose, affords relief to suffering, but does not aid the surgeon. I have repeatedly tried belladonna to the perinæum, but with no marked result. Some instrument must be passed, and what is the best? A small catheter is necessary on account of the stricture; and if a small tapering elastic one can be coaxed through the obstruction this is the safest and best. Sometimes the sudden withdrawal of the catheter or bougie, after firm pressure against the stricture, will be followed by a stream of water. Small catgut bougies are sometimes employed as a guide along which a catheter may be passed; but I do not like them: they are apt to get entangled in the lacunæ of the urethra and thus lay the foundation of after-trouble. Sometimes a small silver catheter is necessary, and may prove available after other instruments have failed.

But if a catheter of any description cannot be passed, what is the alternative course? It is either to open the urethra in the perinæum, or to puncture the bladder from the rectum. The latter has the recommendation of being the simpler and easier operation; the former is to be commended as offering a favorable opportunity for the radical cure of the stricture, by its free division when the urethra is opened. Certain peculiarities which may appertain to each case would decide me as to which of these operations is preferable. If, for example, the stricture is complicated with perinæal abscess or an old fistula, I should prefer the perinæal section; likewise if the prostate is enlarged or otherwise diseased. But in a simple, uncomplicated case, where the organic stricture is not of very long standing, and the bladder is greatly distended, I think puncture by the rectum is preferable. For, it must be remembered that disuse of the urethra affords a favorable opportunity for the treatment of the stricture by instruments: indeed, its quiescent state alone promotes a cure. Obstinate, old or complicated organic stricture should be treated by perinæal section. This is most readily accomplished by passing a grooved staff down to the stricture and cutting upon it. A director should then be employed to guide the knife through the stricture. The usual custom is to pass a catheter and keep it in the bladder: but I do not generally adopt this

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practice myself. If I can pass an elastic catheter readily into the bladder, I do so, and leave it there for a day or two and then remove it. I do not, however, attach much importance to this step, as the bladder is sure to empty itself through the perinæal opening; and I think the retention of a catheter beyond the first day or two positively injurious. Theoretically it seems the correct thing to supply a model on which a new segment of urethra may be moulded; but the fact is that nature resents such dictation, and prefers building according to her own notions. As the healing process advances, the occasional introduction of a large-sized instrument is beneficial.

I have but few words to say on the treatment of enlarged prostate, or rather the obstruction due to this condition. In most cases the difficulty is readily surmounted with patience and gentleness, and with proper instruments. I have never driven a tunnel through this enlarged organ, though I can imagine it might be justifiable in very rare and exceptional cases. The ordinary prostatic catheter of metal or gum generally passes with facility into the bladder; and that after repeated failures and sundry lacerations with small, short-curved catheters. In some instances the character of the hypertrophic growth renders the introduction of a large and long-curved instrument impracticable; and I have then found an elastic catheter, tapering towards its point, and with a conical bulb, the best adapted to overcome the difficulty, as it accommodates itself to the tortuosity of the canal. Indeed, I strongly recommend this form of catheter in other cases than such as I am alluding to: it is a safe and very useful instrument. It is wonderful how much rough treatment the prostate will tolerate without resentment. If it were more accessible its removal would have been brought, ere now, within the range of modern surgical achievements.

I would remark, in reference to the use of metallic instruments, that it is desirable to have silver catheters fitted with flat wooden handles. These have a twofold utility; they offer a firm hold, and thus enable the operator to graduate the amount of pressure he may think it requisite to employ; and, still more importantly, this arrangement facilitates the guidance of the distal extremity of the instrument, on which success in

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its use so much depends: for the operator may be misled either by the crooked position of the patient, or by misdirection of the point of the catheter. He must not deviate from the median line at the critical sub-pubic or membranous part of the canal; but must keep the point of the instrument against the lower wall of the urethra, and thus avoid striking against the arch of the pubes above, or getting entangled in the fibrous, suspensory fascia, known as the triangular ligament, on either side.

*Treatment of Wounds.*—The treatment of open wounds, whether the loss of texture be from mechanical or chemical injury or from ulceration, must be conducted on the same general principles, though there are certain considerations which deserve attention as regards the general or constitutional condition of the patient, which may indicate some modification in the employment of suitable remedies. The management of these simple, but often troublesome, lesions has often an empirical character, for want of due attention to the physiological condition of the parts concerned. I say physiological, because the actual state of an open wound is governed by the aptitude of the nutrient vessels to do their duty. I do not mean that this condition is a purely local one; for, no doubt, the vaso-motor nerve-centres are potential agents: but it is by careful study of the vascular activity of an open wound that we can judge of its prospects and need of assistance.

The character of the discharge from a wound is generally a fair test of its activity, whether reparative or destructive. But this generic word is often employed very loosely, all discharge being regarded as a secretion; whereas such is by no means the case. In spreading ulceration, without reparative effort, the moisture on the surface consists almost exclusively of tissue débris, mixed, perhaps, with serous exudation from the opened mouths of the capillaries. This molecular disintegration may assume the character of phagedæna, or the still more rapidly destructive stage of gangrene, in which the soddened mass is deprived more suddenly of vitality, and thus remains adherent to, and perhaps infects, the still living tissues in its neighbourhood. Whatever the character of the

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destructive process, decomposition accompanies it, with all its attendant phenomena.

Now, although destruction and repair cannot go on simultaneously at the same spot, evidence of a reparative effort may be apparent in immediate proximity with that of disintegration. In that case the discharge, instead of being sanious and fœtid, assumes a mixed character, and includes some pus cells. The predominance of the one or the other may be accepted ordinarily as an index of the actual condition of the lesion, and also a safe guide in dealing with it.

Where there is rapid molecular death a powerful stimulant is required to rouse the part to action, as in the employment of strong nitric acid to the spreading breach in phagedæna. For this to be effective the surface should be first mopped dry in order to allow of the full action of the acid, and also to limit that action to the part to which it is applied. To what is the speedy and usually hearty response due? It is not a purely local appeal, but one made through the vaso-motor nerves to their centres, and thence reflected to the same part in renovated energy and renewed life. And so with all the modified forms of inactivity; the stimulus must correspond to the need, and wherever there is decomposition the application should be disinfectant as well as stimulating, and frequently renewed. Position and support are important elements in the treatment of ulcers or open wounds, especially where venous congestion was the favouring agent in the production of the lesion: indeed, these two essentials, if properly employed, generally suffice to cure most ulcers, unless the circumference be so indurated and changed in character and vitality, as to need removal by the knife or by caustic. I can speak very favorably of the india-rubber bandage, as efficient as well as cleanly; but it requires careful adjustment. Both posture and pressure prevent or reduce engorgement of the capillaries and veins, and thus render the circulation, and consequently the nutrition, more active.

It is needless to insist on the imperative necessity of cleanliness: yet this is often neglected. Gentleness is also requisite in dealing with a granulating surface, the delicate texture of which is too often violated by the rough use of sponge or lint. All the necessary cleansing may be accom-

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plished by a gentle stream of warm water over the granulations. As regards local stimulants and disinfectants I give a preference to the old-fashioned chlorine preparations over the more modern carbolic acid treatment. Redundant granulations are dealt with more satisfactorily by pressure than by caustic.

I may here notice a condition which is occasionally met with after scald or burn. The surface presents the appearance of being covered by fine granulations and bedewed with pus, in such way as might readily mislead anyone not familiar with the appearance. On careful inspection, however, it will be seen that the granular surface consists really of the swollen and inflamed papillæ of the denuded cutis, the vessels of which pour out pus. Delicate protection of the highly sensitive surface is all that is needed, and the skin often recovers its healthy condition in a very short time.

For the speedy healing of simple incised wounds it is necessary to keep in view the required conditions. We have no reason for believing that the divided extremities of vessels are directly re-united, even if brought into almost immediate contact by the adaptation of the surfaces of an incised wound. The bleeding or tendency to bleed is arrested by the plugging of their mouths and a plastic deposit from the serum, through which new vessels shoot from side to side, and thus re-establish the circulation. From this consideration we learn that the interposition of any extraneous matter would interfere with this process; and that it is desirable to favour the deposition of the plastic film from the blood-serum. Now, coagulated blood acts as an extraneous body, and its presence mars the ready union of two cut surfaces, and is likely to induce suppuration, carbolic acid dressing notwithstanding. The practical conclusion is, that it is preferable to wait awhile, until hæmorrhage has ceased and serous oozing has replaced it, before closing an incised wound: and also to favour the coagulation of the albuminous deposit by some application, such as spirit and water, or a weak solution (about 1 part in 50) of chloride of zinc. In highly vascular parts, such as the lips, it is necessary to arrest the bleeding by immediate closure of the wound, excluding as far as possible all blood from between its surfaces.

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If the healing of a punctured wound is not immediate, it generally causes trouble by the accumulation of discharge at its bottom, which has not a ready exit: the difficulty in healing being mechanical and similar to that which pertains to sinuses. The treatment should, therefore, be conducted on similar principles;—the widening of the mouth of a punctured wound often leading to the same satisfactory result. The retention of poison in a punctured wound is due to the mechanical obstacle to its escape: and the severe constitutional disturbance which occurs often in this form of wound, even where no poison has been introduced, may be traced to infection from the retained and decomposing secretion: at least such is my interpretation of what I have frequently witnessed.

Contused and lacerated wounds are often attended by loss of texture, when severe. I know of no specific treatment in their early stage, unless it be soothing and gentle support.

I have said little of the constitutional treatment of wounds, for this must be determined by circumstances outside the local lesiôn. Nature's indications must be attended to, as well as that which, proverbially, constitutes a second nature, viz. habit: in short, hygienic management guided by common sense, and with regard to the special necessities of each case.

*On Headache.*—I should not venture to write on this subject if personal experience had not quickened my interest in this form of suffering, and prompted me to watch and endeavour to relieve it in others. I do not propose to write on headache generally, but only on that form with which I am specially conversant as one of positive torture in its severer type, and, unhappily, almost beyond the pale of medicinal or even hygienic relief. And I will not stop to discuss whether what I am about to describe is the same as the French call "migraine:" but I fear it is sufficiently common amongst my hard-worked and anxious fellow-practitioners for me to have the sympathy of some of my readers in the description.

Generally these headaches are periodical, sometimes regularly so, and at varying intervals, but rarely more frequently than once in each week. The severity of the paroxysm and

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its duration vary in different individuals: but all temperaments are subject to the attacks, whether bilious, nervous or sanguine; though the anxious and irritable more often suffer than the placid and even-tempered, the cause and effect being, probably, in a measure interchangeable in this respect. The middle period of life, say from thirty to fifty-five, is that during which the frequency and intensity of the suffering is usually greatest; and if life is prolonged, the attacks become gradually feebler and occur at longer intervals, until they cease almost entirely, or assume the mitigated form of a common headache.

I will first endeavour to trace the course of a severe and protracted paroxysm from its commencement to its close. After a night of, perhaps, unusually heavy sleep the patient rises unrefreshed and languid: a cloud seems to be hanging over him; even trivial occupations appear toilsome, and everything goes wrong. He eats his breakfast with indifference, and proceeds to the usual engagements of the day; but the darkness thickens, his temporal arteries begin to swell, his eyeballs become tender, and his incapacity for exertiôn of any kind is augmented. He strives to rouse himself, and the effort entails increased suffering, which may be limited to the front or back of the head or to one side, or it may involve the whole. Frequently the most intense pain seizes one eye, the globe seeming to be dragged back into the orbit: finally, the limit of endurance is reached, and the sufferer is driven to seek the only resource from aggravation of his torture in seclusion and darkness.

But the pain in the head, as I have described it, by no means expresses all that the patient has to bear. No words can so adequately describe the physical condition as by representing it as closely resembling the stage of sea-sickness preceding the act of vomiting, and plus the intense pain in the head: and this is accompanied by an almost hopeless sense of despair that relief will ever come. If the sufferer be well advised he will abstain from food, for, if he eat, fermentation instead of digestion ensues; and the common crisis of vomiting, which may be delayed for some hours, is only hastened and rendered more distressing by eating. This climax, though very common, is not invariable. When the

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act of vomiting is inevitable, draughts of warm water certainly afford some relief by diminishing the exertion of retching. When unmixed with food the rejected fluid is of the most acrid acid character, but without bile, unless the vomiting is persistent; and then it would seem as if the pylorus relaxed its usual vigilance, and thus permitted bile to enter the stomach, where its presence is always resented. In some instances vomiting affords relief, especially where the presence of food is a cause of irritation; but in others the effort of retching only aggravates the suffering, and no alleviation is experienced until every trace of the acrid poison has quitted the stomach. Probably the relief obtained by drinking warm water may be in a measure due to the dilution of this irritating excretion. During these hours some patients can sleep; but more generally the time is passed in a semi-comatose condition, but without losing a consciousness of the suffering.

Preceding these attacks the urine is sometimes loaded with lithates, at other times it is abundant and limpid: the latter condition almost invariably accompanies and follows the stage of suffering: the skin is dry; and the pulse slow. The outcome from the attack is generally preceded by sleep, and the sense of the relief, negative though it be, is a measure of the suffering, and an enjoyment which must be experienced to be understood.

What is the explanation of this condition, and how is it brought about? What are its remote and what the exciting causes? These questions land us in the field of speculation: I will answer them as far as I can. The periodicity—frequently at regular intervals—of these headaches is remarkable. It appears as if a storm were gradually gathering, until it burst, and then left a clear sky, and an immunity from a recurrence of the attack for an interval, which can be calculated on with tolerable certainty. The suspension of the natural gastric secretion, and the substitution of a concentrated acrid fluid seem to suggest the elimination of a poison from the circulation, as there is no other apparent source whence, in the absence of ingesta, this fluid can be derived. As regards predisposing causes, I have no doubt that fatigue and anxiety operate in hastening and intensifying these attacks, but are insufficient to account for them. Now, I have



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certainly observed, in many instances, other evidence of a gouty tendency: viz. in the character of the urine; in tenderness or swelling of the finger-joints; in a proneness to rheumatic pains and to lumbago: and my conviction is that these are cases in which the gouty diathesis exists, and in which the elimination takes place by the stomach,—the poison causing, by its presence there, the distress and suffering which I have endeavoured to depict. I regret that I have never subjected the vomited fluid to analysis; though probably the form in which the poison was rejected might not have been that of lithic acid or the lithates. There is an arrest or perversion of the organic chemistry in some stage of the process of assimilation, and this condition is the outcome.

The practical question of importance is whether any available means can be employed to curtail the paroxysm, which will sometimes last over twenty-four hours, or to mitigate the suffering. At an early stage free action of the skin will afford some relief; and this may be obtained by keeping the feet and legs in hot water for a considerable time. It is rarely admissible to eat and drink, when the headache is fairly established, for the reason assigned, viz. that the food will only undergo fermentative decomposition. Guarana powder has been commended for its efficacy: and I have found green tea serviceable in affording some alleviation. Where vomiting seems imminent warm water should be taken to facilitate the act. But in spite of any or all these remedies the attack will run its course, and leave the subject of it with but little if any perceptible weakness or prostration as a consequence.

The prophylactic treatment is scarcely more satisfactory, though a neglect of ordinary hygienic management is sure to aggravate the attacks. Regularity in the action of the bowels is essential, and should be secured by some mild aperient, such as the comp. rhubarb pill, taken with the last meal when required. Regularity in diet, mealtime and exercise should be attended to; and as much fresh air as possible should be breathed, and good ventilation provided for, both by day and night. Attention to the action of the skin I attach the greatest value to; free daily ablution of the whole surface, and, where it can be borne, an occasional Turkish bath are very serviceable. I believe nothing tends to mitigate these

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attacks so much as free perspiration, which should be secured daily if possible. It is of course idle to bid the anxious man to lay aside his cares; he will tell you he cannot change his nature: but such control as can be exercised is no doubt beneficial in this respect. Every man's special experience will enable him to determine what food and drink suit him best. In a general way I would say that nitrogenous food should be used in great moderation; that malt-liquor is decidedly prejudicial; and that vegetable acids, especially in rhubarb and tomatoes, do harm. But the mineral acids are the best tonics, if taken well diluted; say fifteen drops of nitro-hydroch. acid twice daily in half a tumbler or a tumbler of water. In anticipation of an attack a very useful combination of acetic extr. of colchicum, and watery extr. of aloes, each one grain, with three of rhubarb, may be taken in the form of a pill for a couple of nights in succession, and with advantage. Local applications are of little avail: the most efficacious in affording temporary relief are chloroform, or chloral hydrate and camphor rubbed down together, either preparation being applied over the course of the affected nerve on a piece of lint or flannel. I may remark that I have often noticed that the posterior branch of the second cervical nerve is the seat of acute suffering in its distribution over the occipital scalp, as well as the frontal branches of the fifth.

What is the proximate cause of the pain, which is clearly of a type that is called neuralgic? Certainly the vaso-motor influence is temporarily suspended, as manifested by the dilatation of the arteries of the scalp. Is the great meningeal artery similarly affected? It may be so, as these vessels are derived from the same source; and the frequent stupor accompanying the pain lends a probability to the idea. As vascular dilatation and suspended vaso-motor influence are allied, stimulation of the inert vaso-motor centres affords the best prospect of alleviating the suffering, though not of curing the disease. Locality and atmosphere seem to have but little direct influence over this complaint: probably the attacks are mitigated by a clear, dry air, and aggravated by the relaxing effect of a damp climate. The catamenial period does not seem specially favorable for the development of the paroxysms; and, as far as I have observed, both sexes are affected in-

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differently. That these headaches are hereditary the many instances I have known do not allow me to doubt.

In conclusion, and in confirmation of what I have said previously on this point, I may remark that some striking examples have come under my notice, in which gout has been developed in its more recognised phases in the subjects of these headaches, at a period of life when the cranial suffering had abated or was altogether in abeyance. In one instance within my knowledge these attacks, in an aggravated form, ceased entirely on the development of progressive paraplegia, which terminated after some years in death.

*Varicose veins and Varicocele.*—Operations for the radical cure of these troublesome complaints should not be undertaken without a clear understanding on the part of the patient of the risk which is incurred by a comparatively trivial proceeding; and an operation should not be recommended unless demanded by special circumstances or required by the patient. My reason for saying this is the serious consequences I have witnessed from phlebitis and pyæmia, and the absence of any security from these serious contingencies. Moreover the obliteration of varicose veins cannot be always ensured by operation, and the saphena requires to be ligatured in two or three or more places to secure this result, in consequence of the free communication between its valveless branches. The best method of attaining the desired end is to pass a needle beneath the vein and to place a pad of lint or a piece of bougie over it, and then to compress the vein with a figure-of-eight ligature round both. The skin is thus secured from injury except at the needle punctures. The vein may be divided subcutaneously between the ligatures, but this is not essential. Of course the needle should be removed before ulceration commences, and the case should be watched. The pin or needle (a harelip pin is the best) may be left for forty-eight hours if there be no marked irritation. There is no more risk in the application of two or three pins than of one pin. If further security be sought by subcutaneous section of the vein, it should be done between the two ligatures nearest to the heart, and its object would be to diminish the risk of any clot being conveyed centripetally. I have

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found this a tolerably safe operation if carefully done and watched.

Operations for varicocele often entail troublesome complications, even locally. The bundle of veins and laxity of the scrotal integument do not admit of the treatment just described. The varicose mass must be exposed, and compressed with a wire suture; but, I repeat, the cases are few in which this radical cure justifies the risk. Where atrophy of the testicle exists as a consequence of the varicosity, obliteration of the veins, even if the spermatic artery escape, will not restore it. It seems singular that we can operate with comparative impunity on the hæmorrhoidal veins. Probably this may be due to their termination in the portal circulation.

*Heredity.*—Heredity is a universal law of life: the two are inseparable. Wherever life exists heredity is stamped thereon. It is an ultimate law so far as science can trace it: reference to other laws or to the microscope fail to throw further light upon it: like engenders like; but why it is so we do not know save that it is a necessity. All bioplasm seems identical: we know not why the acorn can produce only the oak, or why the impregnated human ovum has within it all the potentialities of a perfect man. The stamp and impress are natural—the gift of creative power. And this heredity is not limited to species; it extends to individual peculiarities which are capable of transmission, and, therefore, of being influenced by external circumstances, either spontaneous or determined by man's agency. Beyond this heredity expands its domain into morbid actions, and it is a rife agent in the production and spread of degrading and destructive physical evils in the world, affecting especially the human race, and rarely perpetuated in animals except through the instrumentality of man.

It is an interesting and important inquiry how far this heredity of disease is capable of being influenced by circumstances, such as the acquirement by transmission or primarily; the period of life at which the disease was acquired; the influence of medical treatment in securing immunity to the next generation. Other questions of interest present themselves in connection with this subject, viz. the relative influence of male and female parents; the reproduction of hereditary disease

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after the intervention of a healthy generation, and the explanation thereof; the influence of consanguinity; and also that of general debility in either sex. These are questions which can be satisfactorily answered only by the aid of extended investigation, statistically arranged. I can give no more than the results of my own observation, and write rather to stimulate others to direct their researches into this channel, and to preserve a record of all they observe, which I have failed to do.

The conditions of environment—giving a wide interpretation to the word—must influence heredity in a varying degree, according to circumstances. What is the extent of its agency on the impregnated ovum within the matrix? We have proof that maternal impressions are conveyed to and stamped upon the embryo or fœtus during its growth, but we do not know how far its surroundings determine or even modify the earliest stages of its development. If, for example, the impregnated ovum of a flesh-feeding animal could be transplanted to the prepared matrix of a ruminant and there undergo development, would there be any modification of type as a consequence of such transfer? If such an experiment were practicable, we should have an answer to the inquiry; but I apprehend that answer would be in the negative; that the type would remain essentially the same with certain minor modifications, such as we know the parental source of nutriment and growth capable of producing.

The environment of some plants modifies their development, not only in the influence it exercises in regard to size and healthiness, but also in the duplex character and colour of their petals. Yet the type is unchanged, and the plant resumes its original form when the causes of deviation are removed. Precisely the same occurs in animals by crossing of breeds, feeding and training: but there is nothing to lead us to suppose that any influence save impregnation can change the type.

When both parents possess the "mens sana in corpore sano" the children are almost certain to be healthy, barring any previously inherited tendency or the occurrence of any accidental cause of deterioration during pregnancy. If one parent is healthy and the other feeble and sickly, but without specific disease, the offspring, I think, generally takes after one or other parent: thus, in a family of several children so begotten,

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the hereditary influence of the parents will not be seen uniformly distributed; but some of them will be strong and others feeble, following also other peculiarities which may exist in either parent; girls more often taking after the father and boys after the mother: for I think there can be no doubt that the child more frequently inherits the characteristics of one parent than a combination of the characteristics of both, except the races be different, when the physical peculiarities are generally, but not always, conjoined in the offspring. These remarks are illustrated in animals as well as in man.

Personal resemblance is a familiar but striking feature of heredity; and this repetition of form and face, or some particular feature, is quite as frequently derived from the father as the mother; and therefore must be due to the primitive influence exercised on the ovum; unless, indeed, it be argued that the impression is imparted through the mother during pregnancy, which is claiming much for mental influence; I do not say too much. The close resemblance usually of twins is a remarkable and interesting feature associated with this subject; but we cannot derive much information from the circumstance, as it may be explained, with equal plausibility, by referring it to a primary and simultaneous impression at the time of impregnation, or an identity of maternal influence exercised during pregnancy.

But mental and emotional characteristics are also transmitted from parent to child, and are manifested quite independently of education or imitation. Here, too, opposing qualities in either parent usually find expression in their offspring separately, and more rarely in alliance. In the same way the taste for music, drawing, mechanism, and many other proclivities are no doubt frequently inherited, though imitation and early cultivation often exercise a material influence in the development of that which might otherwise remain latent. How intellectual gifts are distributed, and from which parent they are chiefly derived, I am not prepared to say, though I am disposed to believe that the privilege of conferring these gifts is shared equally by both sexes. It has been remarked that great men usually have had clever mothers; and also that the sons of great and good men are often a discredit to their fathers. I think both these statements have

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much truth in them: but the chief explanation is to be sought in other directions than in heredity. Many great men have gratefully avowed how much they owe to the judicious devotion and early training of a clever mother; and many a scape-grace son might, with some show of reason, accuse his father of domestic neglect and indifference amid the absorbing claims of high station or public benevolence.

Certain physical peculiarities, which manifest themselves after maturity, are also inherited; such as baldness or early loss of colour in the hair, tendency to obesity or the reverse, long preservation or premature decay of the teeth, &c.

Among the most singular of these transmitted characteristics are those which may be classed as habits, and which are specially under the control of the muscular system. For example, some singularity of gait, such as turning one or both feet in or out; certain expressions of the face associated with some particular act; manner of handling things, mode of standing; and innumerable small habits and eccentricities, of which the observation of most persons can supply instances, and which serve to identify parent and offspring.

It is true that some of these peculiarities may be acquired by imitation; but I am satisfied that very many are entirely independent of it; moreover, these habits may be occasionally traced to a preceding generation, where imitation would have been out of the question.

It may be a question whether mental cultivation, in early life, in some particular direction and due to assiduous training, is capable of transmission to offspring. I am disposed to think that it is so; though I am aware that instances which might be adduced in favour of this view are open to the interpretation that the result may be attributed to inherited natural ability or special proclivity, or to example or teaching. A parallel exemplification may be cited amongst the lower animals; for I believe I am correct in saying that the offspring of dogs carefully trained for the chase manifest a greater aptitude and are more easily educated for the pursuit of game, than the offspring of untrained animals of the same breed. Again, the inherited aptness, in some families, for certain pursuits requiring mental culture or dexterity, may be ascribed, in part at least, to the same cause: and there can be little

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doubt, I apprehend, that national characteristics are, to a considerable extent, due to similar inheritance; that the habits of a civilised people mould their characters more than their natural characters determine their habits.

As pathological conditions or diseases may be either inherited or directly acquired, it is an interesting question whether the former, or latter (if transmissible), are more readily transmitted to the next generation. As regards anatomical or physiological peculiarities, probably those which are inherited are more commonly perpetuated than those which are primary or, so to speak, accidental: the stamp is, as it were, so impressed as to become more or less permanent. Thus, I have traced an abnormality in the course of the radial artery at the wrist—the trunk occupying the place of the superficialis volæ—through four successive generations. Under the same head may be included defects and deformities, resulting often from arrested development, such as hare-lip and cleft palate; also deafness, shortsightedness, and some abnormal developments and imperfections, especially those affecting the hands and feet.

But the transmissibility of disease depends probably more on its activity at the time of procreation than on its inheritance or acquirement: and this is a consideration of great importance as regards the medical or hygienic treatment of those who are likely to transmit disease to their offspring. I think there can be little doubt that acquired disease is more amenable to treatment than that which is inherited; for, in the latter case, there is deteriorated vigour transmitted with the special pathological condition, and consequently there is less recuperative power, a feebler response to the medicinal appeal.

The many pathological conditions credited with heredity may, probably, be classified under but few heads, as most of them are only different phases of the same morbid action, modified by accidental peculiarities in the diathesis of the recipient. Inherited tubercle may thus manifest itself under different forms in various members of the same family; its active development in external organs often securing to the sufferer immunity from the more serious and even fatal invasion of vital organs. Moreover, the disease would seem to be

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capable of exhausting itself by assuming an active form in early life, and of thus leaving the subject of such eliminative action comparatively robust, and competent to reach to average longevity. And here an interesting inquiry presents itself, whether, after such active expenditure, the original contamination of the system would be inherited. I think probably not in the case of tubercle more than in syphilis, unless the disease still exist in some latent form, which the absence of any exciting cause has rendered inert. The probable infectiousness of tubercle opens up a new field for speculation and investigation, of much practical value and interest.

Gout or—to use a more generic term—lithiasis is inherited in various forms, which include not only the many phases in which it is familiarly recognised, but probably also urinary calculus, carbuncle, eczema and other forms of skin disease, periodic headache, dyspepsia, &c.

Insanity is unquestionably hereditary; but it is a form of heredity involved in more obscurity than the others to which I have alluded; *i. e.* as distinguished from those conditions of impaired or disordered function which are due to the presence of tubercle, and liable to assume an active state and to terminate fatally. But disorders of the mind are, like many bodily ailments, the functional expression of an organic deviation from a healthy standard. We cannot suppose that insanity is transmitted from parent to child independently of organic change.

Cancer is credited, both professionally and popularly, with heredity. That it is so in some—perhaps many—instances is no doubt true; but, in my experience, not so commonly as seems to be generally assumed. The disease is comparatively rare in early life, and when so met with it is scarcely ever inherited. Probably it would be found that, in this disease, the developed presence of the morbid condition, and its activity at the time of impregnation, determine its heredity. That in some instances this disease manifests itself locally, and at once exhausts its tendency to further development, after careful and entire extirpation, there can be no doubt: yet these exceptional cases—for such they are—do not militate against the overwhelming evidence in favour of the constitutional origin of the

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disease. There is nothing inconsistent with pathology in the supposition that, whatever may have been the predisposing or exciting cause of cancer, this cause may have been limited at first, and eradicable; but fatal if left to contaminate the system, probably through the lymphatics. I can recall some remarkable cases illustrating the suppression of malignant growth by early removal: especially one of typical colloid from the neck, and another of round-celled sarcoma infiltrating muscle, and recurring after one operation, the subjects in each instance (ladies and personal friends) being quite well after the lapse of many years. In these, as I believe it is in a large proportion, if not all, of such satisfactory cases, the disease was not hereditary. Again, instances of the most rapid development and speedy fatality of cancer which have come under my notice have occurred in children without any trace of inherited taint.

Such considerations need not, therefore, encumber the investigation into the origin and evolution of this terrible scourge, which spares neither age nor sex, nor temperament; —the sanguineous and lymphatic, the nervous and bilious being alike obnoxious to its ravages; nay, often the apparently healthy and robust become its victims without a trace of hereditary taint: and the "malignant aspect" is acquired only as the evolution of the disease advances. It is a pathological mystery which has baffled scrutiny beyond the circumscribed limit of its histology; a mystery which may some day be solved by light thrown, perhaps accidentally, upon it, by researches in humoral pathology, when the essentially constitutional origin of the morbid action will be demonstrated, and that its local manifestation is not determined by mere accident or caprice. It is worth having life before one to take part in such research, and to strive after the means of arresting the development of this remorseless disease.

The subject of hereditary syphilis has received much consideration from various observers. In this disease we have the best illustration of the power of medical treatment in extinguishing the activity of the poison, and, it may be hoped, therewith its heredity. The specific poison, if active at the time of impregnation in the mother, is developed in the offspring at birth in one or more of its secondary phases:

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and in whatever form it may be inherited from either parent, it is perpetuated in blighted health and deteriorated development in after generations. Is inherited syphilis any security against the reception of the poison in its primary form? I cannot answer this question from my own experience. The alliance of syphilis and tubercle is a prolific source of misery both present and future; and when combined, as my early recollections remind me, with the effects of the reckless use of mercury, the objects of this triple infliction were both loathsome and pitiable in the extreme. I have little doubt that exfoliation of the flat bones and other complications, such as acute phagedena, were due, in such cases, rather to the abuse of the mineral than to the specific disease *per se*. This by the way.

There are many collateral questions of much interest associated with the general subject of heredity; such as the relative influence of male and female parent under ordinary circumstances: the same question when the disturbing element of disparity in age, physical power and habits is considered: the influence of consanguinity in parents; and that of the nurse's milk, if any, on the child.

The children of aged men, when the mother is young, are generally robust, if both parents are healthy; in other words, the age of the male does not seem generally to exercise a deteriorating influence on the offspring: at least such is my impression from what I have observed. And when the female is approaching the barren period of life she is able to bear healthy children if the male is vigorous and not old. But generally the offspring of an aged man and of a woman past the prime of life are not strong. Habitual intemperance in either parent has usually a disastrous influence on their offspring. I believe that this vice in the male has a more widespread power for mischief than is generally attributed to it; causing much misery in the succeeding generation, which manifests itself in various forms of deteriorated mental and bodily health, as well, possibly, as in the inheritance of the vice itself: at least so it is thought by some, though it is difficult to differentiate between the influence of example and heredity in this case. It seems, indeed, far from improbable that the predisposing cause of some specific degeneration may have its

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origin in such constitutional degradation: tubercle, gout and, possibly, cancer may be thus initiated under favouring circumstances; for we are not yet in a position to affirm that these pathological conditions are derived necessarily from any extrinsic source, and certainly they are not, in their specific form, necessarily hereditary.

The degenerative influence of consanguinity in parents is mysterious yet general: and this is not limited to functional deterioration, but appears to be a rife source of organic imperfection. Yet this is not by any means universal, for many instances come under notice in which the families of first cousins are healthy and strong.

The question has been raised whether any influence is exercised on the sucking child by the nurse's milk;—I mean such influence as could be regarded as distinctly hereditary, apart from mere physical vigour. I have no experience on this point; but I can conceive it quite within the range of possibility that it is so; and I should be disposed to allow this feeling to have some—I do not say much—weight with me in selecting a wet-nurse.

The singular circumstance of recurring heredity after the intervention of a generation, in some instances, deserves a passing notice. This is not only a popular belief, but is supported by scientific observation. It cannot be denied that, in some unintelligible way, the male influence survives the actual impregnation, as demonstrated in animals where it can be more readily traced. I presume that such intermittent heredity as that to which I refer is accounted for on parallel lines: it seems to admit of no other explanation.

The foregoing brief remarks on a large and interesting subject might be readily expanded into a volume, especially if authorities were searched and quoted. But in this, as in the preceding papers, I have simply given, in a suggestive form, the results of my own observation, without reference to the opinions of others. I trust some one or more of my younger readers may be induced, by what I have written, to cultivate a field which promises so rich a harvest;—not in the loose and cursory way in which I have done it, but by the accumulation of facts, and by marshalling them in such form as to

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render them available for the furtherance of our scientific knowledge, and in promoting the general welfare.

Since writing this paper the following interesting case has been communicated to me by my friend and former pupil, Mr. Musson, of Clitheroe, as having recently occurred in his practice. It *seems* to exemplify, in a remarkable way, the influence of maternal emotion on the ovum; if regarded as a mere coincidence it is scarcely less remarkable.

A lady, about twenty years old, married three years, and with one child, had menstruated in August of last year, just before there was an exhibition in the town of the "two-headed Nightingale." She did not see this monster, but only a representation of her; and heard her much talked about, and thought a good deal about the possibility of her next child resembling this *lusus naturæ*. In the following month, September, the catamenia did not appear, and then she concluded she must have become pregnant just at the time these thoughts were occupying her mind. In February of the present year a six-months' fœtus, very recently dead, was born, in every apparent particular resembling the exhibited monster. This fœtus is now in the possession of Professor Macalister, of Cambridge, who has kindly supplied me with some particulars respecting its anatomy. He speaks of this monstrosity as being not uncommon among sheep but rare in man. The limbs are double: the skull and spinal column, with the brain and cord, are double; but the ribs of each thorax coalesce with those of the other, a sternum being present on either side. There are four lungs and a single malformed heart, a single œsophagus and a single stomach. The small intestine is single as far as where the duct of the umbilical vesicle originally came off; from that point downwards it is double. Both fœtuses are females. Professor Macalister remarks that monstrosities of this kind arise from cleavage of a single ovum; and in the light of Hertwig's researches, the ovum seems to be influenced by the number of spermatozoa which pierce it.

It is somewhat singular that, just as these pages were going to the printer, my attention was drawn to a similar case and attributed to the same cause, reported in the 'Lancet'

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for March 21st of this year by Mr. B. R. Johnston, of Birkenhead. His patient was forty-two years old, and the mother of ten children. She menstruated in March, 1884, and was delivered in January of this year of twin boys, connected together from the neck to the umbilicus, with one cord proceeding from an umbilicus common to both. The birth was a difficult one, and the twins were dead. She told her nurse that in March, 1884, which must have been before she conceived, she went to see the two-headed Nightingale and fainted at the sight. She seems to have expected her confinement in November, and said, in answer to a remark that she might have twins as she was going on so long, that she did not care if they were not Siamese twins. Such are the facts in these two authenticated cases: it is difficult to escape the conclusion that there is a relation of cause and effect between this premonitory dread and its fulfilment.

*To be continued.*

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# CLINICAL OBSERVATIONS

ON THE

# ANATOMICAL RELATIONS OF THE HYMEN.

By HENRY GERVIS, M.D.

Up to a comparatively recent period there was but one view held as to the anatomical relation subsisting between the hymen and the vagina. It was held that the hymen was a species of diaphragm of varying shape and consistence, formed by a duplicature of mucous membrane and situated at the vaginal orifice,—that it in fact defined the outer limit of the vagina and indicated the line of union between the external and internal organs of generation. But in 1879 M. Budin advocated the view that the hymeneal folds should be regarded as in reality prolongations of the vaginal wall, and that the vaginal orifice should be considered to correspond with the orifice formed by the free edge of the hymen and not with its base. No English writer, that I am aware of, has adopted this view, and the evidence in its favour, both from dissection and embryology, must be held at present to be inconclusive. Within the last twelvemonth some few cases have come under my notice, in which I have made observations on the position and arrangement of the hymen which are not without interest in connection with this question. In the first case there was absolutely no vagina, but nevertheless there was a well-developed hymen.

A. G—, æt. 18, admitted into Adelaide Ward April 9th,



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1884. She stated she had never been very strong, but fairly well until fifteen, when she became subject to headaches, these headaches being more or less periodic, occurring about every month or two, sometimes lasting for a week, sometimes for less. They continued to recur without other symptoms until she was nearly seventeen, when for the first time she had, with one of the headaches, an attack of pain in the lower abdomen, accompanied by nausea and vomiting. Throughout 1883 these attacks of pelvic pain recurred with more or less regularity, but she was never laid up with them. On January 24th, 1884, she had so severe an attack that she had to keep her bed for a fortnight, the abdominal pains being more severe than any she had had before, and said to be of a forcing character like labour pains. The pains would also shoot up to the breasts, especially the left, and were accompanied by frequent sickness, and occasionally she states she was delirious. As the attack subsided, about February 10th, she had some epistaxis. In about a fortnight's time, February 27th, she again had to keep her bed with another attack of a similar character but of shorter duration, lasting till March 8th. On March 19th she had a third attack lasting till April 7th. Her mother spoke of the pains she had as like severe labour pains.

On her admission, April 9th, she was noted as pale, fairly nourished, but sparely built. On examination the mons veneris was found poorly developed, but the pubic hair, the labia majora, the nymphæ, the clitoris, the vestibule, and the urethral orifice were perfectly normal. The hymen was present, in its usual position, as an annular membrane, about one eighth of an inch in depth, but instead of surrounding an orifice it enclosed a perfectly level circular area, with the outer portion of which its inner surface was more or less in apposition. On pressing the finger against this enclosed surface, it could be pushed in so as to form a shallow pouch, but on removing the finger the previous level flatness was at once regained. On examination per rectum the uterus could be felt somewhat higher in the pelvis than it should have been and somewhat enlarged, but symmetrically so, and it did not give the impression of its cavity being bulged by fluid accumulation. On passing the sound into the bladder and the finger into the rectum, the two were found separated by the thinnest possible septum, the

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mucous membranes of bladder and rectum being practically in apposition without any appreciable thickness of cellular tissue intervening.

On April 15th she had some menstrual molimina, but with none of the severer symptoms described as recently present.

On April 26th she was placed under ether, and I commenced an endeavour to make her an artificial vagina. I made firstly a transverse incision across the surface enclosed by the hymen, as already described, and then dissected down into the tissue between the urethra and rectum, to the depth of rather more than an inch, indeed, to the thin septum spoken of as existing between rectum and bladder, and there its extreme tenuity compelled me to desist. The pouch thus formed was packed with strips of lint dipped in carbolised oil. The surface healed gradually without contraction, forming a short vagina into which the finger passed to the extent of about an inch. It was my purpose to make a further attempt at reaching the uterus by the rectum, but having been much benefited by the rest and general care she had received, she wished to leave the hospital, promising to come in again if the severer monthly symptoms recurred.

It was less, however, with the idea of detailing the steps taken to make an artificial vagina in a very difficult case that I have narrated these particulars than to put on record the fact that with an absent vagina there was present a well-developed hymen.

I have also had recently under my care two cases of double vagina and uterus. In their general features these cases closely resembled one which occurred in Adelaide Ward some few years ago and which I described at length in the Obstetrical Society's 'Transactions.' One was the case of a young married woman, who was not aware anything was wrong with her beyond a moderate amount of dysmenorrhœa until marital perplexities revealed it. One vagina was much smaller than the other, and so sometimes there was considerable dyspareunia and sometimes there was none. In the other case the vaginæ were of about equal size, but she suffered from some dysmenorrhœa. This patient came to me under the impression that she had a displacement of the uterus, for which more than one medical man had ineffectually attempted to introduce a pessary. Indeed,

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examining either vagina separately, the feeling given by the small cervix rather high up and close to the vaginal wall and pointing rather forwards was sufficiently misleading, and evidently the presence of the septum and the two vaginæ had been overlooked.

The point I am wishful, however, here to place on record in connection with these two cases is that in both a single hymen surrounded the double orifice, and that in neither was there any trace of hymeneal fringe on the free edge of the septum, as on the theory that the hymen is a prolongation of the vaginal wall would probably have been the case.

A case in which we met with an interesting variation in the hymen not bearing upon the view advocated by M. Budin, but bearing upon the etiology of imperforate hymen, occurred in Adelaide Ward last summer and was reported by Mr. Sherrington.

H. B—, æt. 29, unmarried, was admitted on July 12th. Her family history was good; her general health had been good except for some tendency to attacks of acute tonsillitis. The catamenia appeared first when she was fifteen and had continued regularly since then, lasting four days at a time, but always accompanied by pain both before and during and after the flow. A year previously to her admission she had become subject to leucorrhœa which had gradually increased in amount, and the pain in the back, which she had formerly had only at the periods, now became constant. The loss at the periods had also become excessive.

July 17th.—On vaginal examination a peculiar condition of hymen was apparent. It was nearly imperforate; the small aperture in it was fairly central and broadly oval in shape, the major axis of the oval being antero-posterior, and the margin of the aperture was crenulate. Bisecting this aperture longitudinally was a median bridle some 3 mm. wide, with straight, fairly parallel edges. It was not quite accurately median, slanting backwards to the patient's left, and evidently represented an early adhesion of the edges of the hymen. The further treatment of the case included the removal of this bridle, and crucial incisions of the broad hymeneal folds and the application of nitric acid to a highly endometritic uterus after dilatation of a contracted cervical canal.

On August 8th she was discharged cured.

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In yet another case which I have narrated in full in the Obstetrical Society's 'Transactions,' and which occurred two or three years ago in Adelaide Ward, there existed at about half an inch from the vaginal orifice a complete transverse septum across the vaginal canal, with a minute opening in one corner through which with difficulty menstrual fluid escaped at the catamenial periods. This septum in character closely resembled the membrane which when existing at the vaginal entrance is usually spoken of as imperforate hymen. But in this case, at the entrance in the usual position was present a well-defined annular hymen of the ordinary character. If, then, this transverse membrane had existed at the vaginal orifice it would, on M. Budin's view, have represented an extension of the vaginal wall, closing the vagina and been spoken of as a case of nearly imperforate hymen; but there being an ordinary hymen present, it must either obviously have been a second hymen, and if so, not possibly representing the termination of the vaginal w lls, or it must have been, what I believe it probably was, the result of some early pathological adhesion of the vaginal mucous membrane. And not improbably every case of so-called imperforate hymen is of similar character, for Dr. Matthews Duncan has called attention to the fact that in many cases of imperforate hymen, around the occluding membrane the hymeneal fringe is to be distinctly seen; unless, as in the case reported by Mr. Sherrington, the occlusion occurs by adhesion of the free edge of the hymen itself.

The three cases first referred to I think therefore give support to the view that the hymen must not be regarded as an extension of the vaginal wall; and the last two cases go to prove that so-called imperforate hymen probably arises from adhesive inflammation in quite early life either of the vaginal walls or of the free edge of the hymen; the result in the one case being vaginal atresia, in the other hymeneal atresia.

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# SEQUEL TO A CASE OF ENTEROTOMY.

By W. W. WAGSTAFFE, F.R.C.S., &c.,
LATE ASSISTANT SURGEON TO ST. THOMAS'S HOSPITAL, ETC.

In the fourth volume of these 'Reports' will be found a paper on "Intestinal Obstruction," and the leading case upon which it was founded was that of a woman, Emma B—, for whom the intestine was opened in the right side about an inch above Poupart's ligament. There had been total obstruction for seventeen days, and the relief to her distressing symptoms was immediate, and she recovered. She went out of hospital in due course, and I have heard occasionally of her since.

I feel it is a duty to complete as far as is possible the record of cases which have been of importance enough to be published —particularly if the usefulness of an operation can be determined by time and observation, and I submit the following information about this case as valuable to a certain extent. I am naturally sorry the record is so meagre and late in appearing, but it has only recently come to my knowledge, and I am unable to learn more on some of the points of importance after so long a lapse of time.

The case was one of obstruction due to the presence of a large growth in the pelvis which involved the intestine in more than one place, for the hand could be passed into the rectum and the fingers could be carried beyond a spot where the growth had involved the mucous membrane, and yet this

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part of the intestine was empty. It was therefore doubtful where the chief obstruction was, and so the operation was performed in the right inguinal region.

The final remarks in the original account of the case[1] are "That the termination of the case will be fatal is to be anticipated, for the tumour is still present and probably growing; but so far as the operation is concerned the case is successful. She is living in comparative comfort, free from the distressing sickness which resulted from the obstruction of the intestine."

A year and a half after the operation I received a report from Dr. Coates that "she is enjoying very good health and is able to walk three or four miles without suffering any inconvenience. Her bowels are regular, and she passes hardly anything by the artificial opening, which, however, is perfectly patent. Some time ago she had a good deal of trouble from protrusion of the intestine through the wound, but she has had no bad symptom since." She continued well after this for another year, doing her housework and walking comfortably, and then seems to have had a sharp and short attack of peritonitis of which she died. Owing to some error apparently of the post I did not receive information of this at the time, but Mr. Coates has written since, "No P.M. could be obtained; she was only confined to her bed a week or so; before the attack of peritonitis her health was good, and she had no difficulty in walking two or three miles at a stretch; she passed fæces both per rectum and through the artificial opening, so that whatever obstruction there had been was removed." "The cause of the peritonitis was never made out."

In closing this case I will only add a few remarks which seem suitable after its completion, and I am sorry that the means of determining many points of interest are so limited. The absence of a post-mortem and even of any satisfactory account of the symptoms in her final illness is much to be regretted, but still there are some points of practical importance which are left to us from the case.

The first thing that occurs to one is the fact that the patient survived about two years and a half after the operation; and this operation was originally the means of saving her life, for the obstruction had been complete for seventeen days, and

[1] Vol. iv, p. 183.

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relief to this was given mechanically by the opening of the intestine above the obstruction. Moreover, the patient, after returning to her home, was able to undertake her household work and walk without inconvenience for a considerable distance. The opening in the groin did not prove either offensive or inconvenient enough to herself or those about her to discredit such an operation for its practical after-effects. One reason for this is obvious and important. The natural outlet was resumed, and after a time there was very little fæcal discharge from the artificial anus. How is this to be explained? No doubt the original cause of the obstruction remained in the tumour itself, but that it did not now interfere mechanically with the passage of the fæces is obvious; and the renewal of the natural course of the fæces is common in my experience after release of the pressure above the seat of obstruction. This occurs sometimes in cases of colotomy, and I may refer also to an interesting case in which this occurred after tapping the intestine in several places and evacuating a large quantity of gas.[1] In this case the intestinal obstruction was relieved by taking off the pressure from above, and the fæces passed per rectum after the stoppage had lasted seven or eight days with acute symptoms. Mechanically this is easily explained by folds or overlapping masses being pressed together more and more by the increasing pressure above, and when this is diminished by making a vent above there is more opportunity for the semi-liquid fæces to pass on.

It is still an open question as to what part of the intestine was opened in the operation, but in all probability it was small intestine. That was my impression at the time, not so much from the appearance of the very small portion visible during the operation, as from the fact that the bowel could be felt to be empty when the fingers had passed beyond one point of invasion by the pelvic tumour through the mucous surface of the rectum. Practically, however, this is not of great importance. The tapping was above the seat of obstruction, and the right groin was chosen with the view of finding distended intestine, or failing this to allow of extending the incision and exploring the abdominal cavity.[2]

[1] 'St. Thomas's Hospital Reports,' vol. viii, p. 31.

[2] Vol. iv, p. 183.

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In the paper referred to I laid considerable stress on the value of manual examination by the rectum, and I have had reason to estimate highly its value in many cases since. That it has fallen into disuse or disrepute with surgeons I recognise, but this seems to me a matter for regret, as the use of the hand enables a further examination to be made of the abdominal contents with the aid of external manipulation than any other method I am aware of. It has its risks, but its advantages in doubtful cases more than counterbalance the dangers attending it.

The cause of the peritonitis which ended fatally must remain a question, and it is to be regretted that this was not cleared up by a post-mortem examination and that the account of it is so unsatisfactory. But that it was not accompanied by further obstruction is stated indirectly, and it may fairly be assumed that the peritonitis was connected in some way with the growth, either by extension into the peritoneum, or more probably by giving way of the intestine at some point and escape of its contents.

Could any further operation have relieved the patient? We have not the means of knowing accurately the nature or connections of the tumour, and so must, I think, accept the diagnosis formed in the first place, that it was of too extensive a connection with intestine and too infiltrating a nature to make removal probable. And it is not probable that any operation at the time of the last illness would have been of service.

As it stands, therefore, I think we may learn from this case that enterotomy for intestinal obstruction in certain cases affords immediate relief, and this may last for a lengthened period and allow of the natural channel being restored, and the wound be no serious inconvenience to the patient. In such a case as the present I think the greater prospect of good was given by this operation than by gastrotomy (abdominal section), though in doubtful cases where the obstruction is beyond reach and unknown in its character or position, the different methods of treatment referred to in the paper quoted affords the best prospect of success: "Above all things, it is most necessary to avoid delay."

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# SOME EXPERIMENTS

UPON, AND EXPLANATORY OF,

# THE PHYSICAL PROPERTIES OF MUSCLE.

By WALTER J. KILNER, M.B., M.R.C.P.

## Part I.—The Extensibility of Muscle, and the Relation it bears to the Work which a Muscle can Perform.

Some time ago, when reading about the extensibility of muscle, I found that this tissue is supposed to differ from all other substances, inasmuch as it does not stretch in equal increments for equal weights. The paragraph which drew my attention to this subject is as follows:—"When a muscle is extended by a series of weights increasing in magnitude, the curve (obtained by making the weights abscissæ and the extensions ordinates) is not a straight line, as is the case with dead elastic bodies, but a hyperbola. The elasticity or extensibility of the muscular substance is essentially a vital property," &c. ('Text-book of Physiology,' M. Foster, 3rd ed., page 55). All other works upon physiology if not equally explicit imply the same. I felt convinced that it was most improbable that this peculiarity was confined to muscle alone, and upon considering the matter I came to the conclusion that muscular tissue *follows the usual laws of extensibility*,

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and that any seeming difference is entirely due to its not being a simple but a compound structure.

Strains such as weights when applied to an inorganic substance cause elongations, and this lengthening is proportioned to the tension. With organic substances the same law seems to hold good but for extremely short durations only, then the increase in length is augmented, especially with the greater strains. In other words, we may state the case thus, that within certain limits, the coefficient of extensibility for successive equal tensions—

1st. For *inorganic* substances remains *constant;*

2nd. For *organic* substances is gradually *augmented;*

3rd. For *muscular tissue* is gradually *diminished;*

and THIS COEFFICIENT IS DIFFERENT FOR EACH SUBSTANCE. It has also been proved theoretically, and experimetally determined that THE VOLUME OF A SUBSTANCE INCREASES DURING EXTENSION.[1] These two facts supply the key to the diminishing coefficient of extensibility of muscle.

Suppose a hollow tube of any substance be completely filled with another substance having an equal or greater coefficient of expansion, when a strain is applied the volume of the tube will be augmented, and this increase in volume will be in no way interfered with by its contents because their capabilities of expansion are equal or greater. However, should the tube be filled with some substance having a lower coefficient of expansion, the case will be completely altered, as should the tube enlarge in the ordinary manner, while its contents cannot, there will be produced that abhorrence of nature, a vacuum; but if instead the contents prevent the tube from elongating to the extent it would have done had they an equal or greater coefficient of expansion, we shall have a condition similar to what is met with in the extension of muscle.

The next step was to determine experimentally the above theory; and for this purpose I employed bladders and thin tubes of india rubber filled with air, water, &c., measuring the increase of length as they were stretched by different

[1] The word extension is used in this paper as being more correct than the word elasticity, which is often employed for the same purpose, but in reality means the recovery from extension, and is therefore misleading.

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weights. Several methods of measuring the extension were tried; for instance, a lever recording upon a revolving cylinder —a direct method similar to that used by Du Bois Raymond for measuring the extensibility of muscle; but all were finally discarded for the following simple, efficient, and easily worked apparatus. The instrument (Fig. 1) consists of a stand (A) raised and lowered by rackwork, the extent of the movement being ascertained by the revolution of the pinion, to which is attached a micrometer dial (B) divided into degrees, the amount of the revolution being shown by means of a pointer being placed in a convenient position. For each millimetre the stand is raised or lowered the dial passes through 25°. Upon the movable stand (A) is suspended a balanced recording needle (C) about six inches long, having a hole about half an inch from its axis. Through this hole is passed a thread to be connected with the experimental bladder (F), also a second thread to support a scale pan (D) for holding the weights. In addition there is a pointer (E), with or without a scale at the end, fastened to the stand (A), for ascertaining when the needle (C) is level. The scale pan (D) by a compensating weight is made to weigh exactly twenty-five grammes, and each weight used is also twenty-five grammes. In all the later experiments an arrangement not shown in the drawing was added, so as to release all strain from the bladder, and to permit it to regain its elasticity while the strain could be reapplied instantly.

To work the instrument the bladder (F) is attached to the needle (C), this having its point level with E, and the pointer of the dial (B) is placed at zero. The pan (D) (=twenty-five grammes) is now hooked on and the needle drops. The stage (A) is now lowered by means of the rackwork until the needle (C) again becomes level with its pointer (E), and the distance through which the stage has passed is ascertained by means of the revolution of the dial (B). A weight is then placed in the pan (D), and the same procedure is a second time gone through. This can be repeated as many times as desired. Care, however, must be taken to level the needle through the series of experiments either from below upwards, or from above downwards, to avoid any errors arising from the rock of the rackwork. After a little practice the

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measurments are quickly and easily made. The most likely fault is at the commencement, to have just sufficient, but no more weight than is absolutely necessary to keep the thread connecting the bladder and the needle tense.

*Exp.* 1.—When beginning the experiments I used a bladder slightly inflated with air, and upon measuring (Table 1 and Fig. 2) with the different weights found to my surprise and I might say disgust, that, contrary to the above theory, the extension was much greater with the first weight than with the succeeding ones, although after the second each succeeding extension was as nearly as possible the same. This result was arrived at in a number of experiments showing it to be correct and not accidental. This result, although at first sight contradictory to my theory, yet is not so in reality, and it even affords an explanation of another peculiarity of muscle, viz. *its greater extensibility when in a state of contraction.*

*Exp.* 2.—The extension of a tube six inches long and one and one third wide when just inflated with air was measured with each of the weights. The result was (Table II) a proportionally increased elongation with the successive equal weights, this being due to the property of the india rubber.

*Exp.* 3.—The next experiment consisted of filling with water a tube about half the length of the previous one, the upper and lower ends being fastened round corks, two and one and a half inches in diameter respectively. The corks were well paraffined, and the upper one was fitted with a small tap. When filled with water the diameter was as nearly as possible equal throughout its length. Midway beween the corks were tied four strings for the attachment of the side-weights. The lower cork had a loop to connect it with the recording needle. After the tube was filled with water, and all the air expelled, the extensions due to the different weights were ascertained (Table III and Fig. 2), and this corresponded almost exactly with what was theoretically expected. The same tube was subsequently filled with air and the extension taken (Table IV). See also Table V. These experiments were repeated over and over again with the same result. From the above I think we have very good reasons for considering that the muscle sheath is more exten-

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FIG 1.

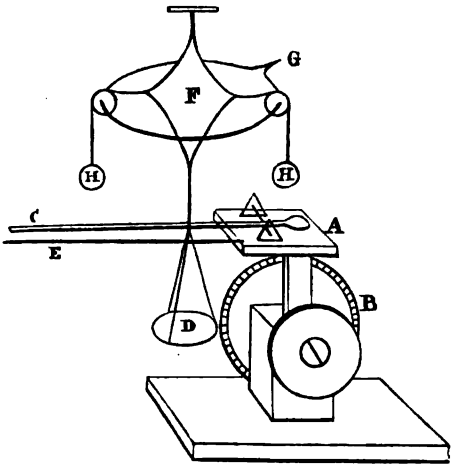
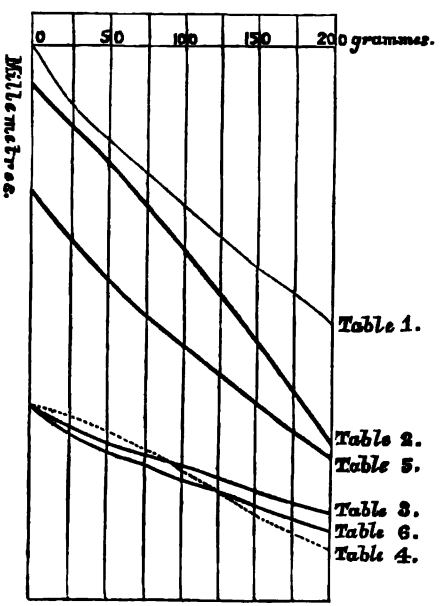



FIG. 2.—CURVES OF TABLES I—VI.

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sible than its contents, and that after rigor mortis has set in the sheath becomes more rigid, and its coefficient of expansion is equal or nearly equal to that of its contents, and thus muscle will follow the law of extension of simple bodies.

*The coefficient of expansion of a muscle is greater when in a state of contraction than when at rest.*—The physical properties of muscle afford an explanation of this fact. These are twofold: 1st. Muscle becomes more elastic with the increase of temperature, but this can only make a slight difference and does not belong to this part of the subject. 2nd. The alteration of form. This constitutes the chief cause of the difference of extensibility, and is the reason of the apparently contradictory experiment (Table I) mentioned above. In short, we may say that hollow elastic bodies containing fluids or gases become, within certain limits, more extensible as the ratio between the axis perpendicular to, and the axis parallel with, the strain increases. Experimentally, it is impossible to imitate accurately a muscle in a contracted state; still, however, it may be done sufficiently near to prove the fact.

*Exp.* 4.—If a ring (Fig 1, G) supporting pulleys be placed round the tube used in Exp. 3, this being filled with water and the sideweights H and H attached to the threads fastened to the sides after the threads have been passed over the pulleys (each weight used was 50 grms.), and the extension be ascertained, we shall have a rough model of a muscle under contraction. (In the later and more accurate experiments the ring was done away with, and the pulleys fastened upon separate stands, one having a scale to keep the thread to which the sideweight was attached exactly horizontal. The ring in the figure is retained for the sake of simplicity.) The result is Table VI. Compare this with Table III, and we shall find that there is for the first six weights an increase of extensibility beyond what was determined under similar circumstances without the sideweights H H. After the first six weights there is a falling off in extension.

The same can be seen even more markedly if an oval bladder be filled with water and the lengthenings measured first, when the strain is applied in the direction of the long axis, and, secondly, in the direction of the short. For this

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purpose I only used 25 and 100 grms. weights and then compared the extension in the two instances.

*Exp.* 5.—The bladder used was 50 mm. long and 37·5 mm. wide. The weights were applied in continuation of the long axis.

With 25 grms. the extension was 10·04 mm.
„ 100 „ „ „ 25·64 „

Or the extension with 25 grms. was about 39·2 per cent. of what it was with 100 grms.

*Exp.* 6.—The same bladder was turned so as to have the strain applied in continuation of the short axis, but this from the weight of the water was altered to 41 mm. while the other axis was reduced to 45 mm.

With 25 grms. the extension was 10·48 mm.
„ 100 „ „ „ 25·28 „

Or the extension with 25 grms. was 41·5 per cent. of what it was with 100 grms.

As has been noticed above, this apparently great increase of extension is only obtained with the first few weights of 25 grms. each, so another experiment was tried with the above bladder both lengthways and breadthways, only using weights of 10 grms. each, and with these it showed the change was progressive, the same law being followed (see Tables VII and VIII). The above experiments, I think, are sufficient to show that the increase of extension of a muscle when in a state of contraction is almost entirely due to the alteration of form, there being no real difference between the action of a strain upon a muscle and upon a bladder filled with water except in degree. This difference is easily accounted for by the fact that the experiments were performed upon single tubes or bladders, while a muscle consists of an innumerable number of fibrillæ, and as the central fibrillæ contract and widen, they must necessarily cause the surrounding fibrillæ to form curves and thus intensify the action.

*Muscle when loaded with moderate weights upon contracting will do more work than when loaded with light or heavy weight.*—This is evidently a physical property of muscle, a necessary outcome of the peculiarity of its extensibility when in a contracted state, conjoined with its volume, not increas-



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ing in a proportionate rate with the strain, showing how nature has adapted the most subtle physical properties of substances in animal mechanics.

*Exp.* 7.—A bladder filled with water having two side-strings for the attachment of sideweights (H H, Fig. 1) was suspended in the usual manner. When the sideweights are attached we have a shortening and widening of the bladder, analogous to what occurs when muscle contracts, only here the force is external instead of internal. First the pan (D) (= 25 grms.) was fastened to the lever, and the position of the micrometer dial noticed when there were no sideweights, and the needle (C) was levelled. Next the two sideweights, 50 grms. each, were attached and this caused the needle to be raised, and the needle was again levelled, when it was found that the micrometer dial had traversed 48 divisions, or the needle had been raised 1·92 millimetres. Thus we have 25 grms. raised 1·92 mm., or the work done 48 millimetre grammes. Next 25 grms. was placed in the pan and the same process repeated, when it was found that 50 grms. had been raised 1·40 mm., or the work done was 70 mm. grms. Similarly when the load was 75 and 100 grms. the work done was 75 and 60 mm. grms. respectively. (See Tables IX and XI.)

*Exp.* 8.—The same bladder as used in Exp. 7 and Table IX was filled with air instead of water and treated in exactly the same manner. The work done was 28, 20, 21, 20 mm. grms. when the loads were 25, 50, 75, 100 grms. respectively (Table X).

It may as well be noticed that with the bladder used in Exp. 7, if the weights raised were small, such as 5, 10, 15 grms., the work done, as far as could be ascertained, was exactly proportional to the weights, in this respect also corresponding to muscular action.

Before offering any explanation, we must quote two more experiments with an oblong bladder filled with water, having a length of 47 mm. and a breadth of 36 mm. To the bladder were attached as sideweights two weights of 25 grms. each. The sideweights were carefully levelled at each stage of the experiments, and the bladder allowed to rest between each additional weight added, all the strain being

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removed in order to reduce, as far as possible, any error arising from loss of elasticity. In Exp. 9, Table XII, the load was applied in continuation of the long axis, in Exp. 10 of the short. The sideweights, of course, in Exp. 9 in continuation of the short axis, and in Exp. 10 of the long. In Exp. 9 (see Tables XII and XIII) we find more work done than in Exp. 10, when the loads 25, 50, and 75 grms. respectively are raised, but that when 100 grms. were being raised there was a sudden increase of work done in Exp. 10 (this was tested repeatedly to insure accuracy, every time giving the same result), while in Exp. 9 there was a decrease, although the force employed, viz. a total of 20 grms. strain was identical throughout the two experiments.

We have seen that the extension of a bladder with the same weights (Tables VII, VIII, III, VI) is greater as the ratio of the transverse axis to the vertical increases. From this we may deduce the fact that when a force within a bladder dilates it, the dilatation will be greater in the direction of the shorter axis until the bladder approaches a perfect sphere. Much more then will a force applied in one direction be able to extend it more readily in the direction of the short axis than in that of the long, because this extension takes place at the expense of the axis unacted upon.

Analysing Exp. 8 (Table X), we have a bladder whose volume we may term unity, and an extending force parallel to the vertical axis (here the long) of 25 grms., giving it an increase in volume $a$ ($a$ being the increase in volume due to the extension of 25 grms. weight), the total volume is $1+a$. Now, if we add the strain of the two side weights (each 50 grms.) we shall have a further increase of $4a$, the total volume now being $1+5a$, but at the same time the weight of 25 grms. is raised 1·12 mm. doing 28 mm. grms. efficient work, the remaining portion of the force being employed in enlarging the volume of the bladder from $1+a$ to $1+5a$. Similarly when the 25 grm. weight is replaced by 50 grms. the volume becomes $1+2a$, and when the sideweights are attached it is increased to $1+6a$, and the efficient work done by raising 50 grms. is only 20 mm. grms., the remainder of the force being expended in enlarging the bladder from $1+2a$ to $1+6a$.

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The same occurs when the 25 grm. weight is replaced by 75 and 100 grms. respectively.

Analysing Exp. 7 (Table IX), in which the same bladder is filled with water, and for simplicity's sake taking the initial increase of volume for a strain of 25 grms. to be the same as if the bladder well filled with air viz., $a$, thus the volume of the bladder with a load of 25 grms. will be $1+a$. With a load of 50 grms. we have a further increase of volume $2a-b$, with 75 grms. $3a-(b+c)$, with 100 grms. $4a-(b+c+d)$ and so on where $b$, $c$, $d$, $e$, &c., represent the decrease in enlargement of the volume as the successive weights are employed, $c$ being greater than $b$, and $d$ than $c$, and $e$ than $d$, &c. Thus the volume of the bladder is unity, when the load of 25 grms. is added the volume is increased to $1+a$. Now, when the two sideweights, each of 50 grms., are added the volume becomes $1+5a-(b+c+d+e)$ and the load of 25 grms. is raised 1·92 mm., the efficient work done being 48 mm. grms., the remainder of the force being expended in augmenting the volume $1+a$ to $1+5a-(b+c+d+e)$. When the load is 50 grms. the volume of the bladder is $1+2a-b$, and when the sideweights are replaced the volume is increased to $1+6a-(b+c+d+e+f)$, and at the same time the load of 50 grms. is raised 1·40 mm., or the efficient work done being 75 mm. grms., the remainder of the force being absorbed by enlarging the bladder from $1+2a-b$ to $1+6a-(a+b+c+d+e+f)$. In like manner the volumes of the bladder and the work done may be considered when the loads are 75 and 100 grms. respectively. Thus as the bladder filled with water has an increase of strain placed upon it, the increase of volume becomes gradually less and less with each successive weight, until for all practical purposes it is *nil*. The sideweights exert a strain in addition and subsequent to the load, therefore more and more of, and finally all, their force is employed in changing the form of the bladder and consequently in raising the load. However, there is another force which assists given sideweights in doing more work with moderate loads than with light ones, as they cause the longitudinal axis to elongate at the expense of the transverse, thus enabling the side weights to act with greater effect. This will also afford an explana-

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tion why as the loads get heavier the work done is gradually and not suddenly decreased. If, however, on the other hand, the bladder is filled with air, then very little efficient work is possible, because nearly all the force exerted by the sideweights is absorbed in augmenting the volume.

If anything else is required to show how intimately connected is the form of the bladder with the work done we may analyse Exp. 10 (Table XIII). Here the work done by raising 25, 50, 75 grms. respectively is in each case only slightly increased, while with 100 grms. the work is suddenly raised to nearly three times the amount when the load was 75 grms. The explanation is that at this point the vertical axis became greater than the horizontal, and thus the sideweights were enabled to act with greater advantage. There is one difference, at first sight important, between the above experiments and what occurs in muscle. As the tissue contracts it will raise the weight when after-loaded, but this cannot happen with a bladder, because the extension from the load is so great that when extended by the sideweights there would be no raising of the load. We have fortunately not far to look for an explanation, as in a muscle the fibres have at a very moderate computation a length 300 times the breadth, while in the bladders we could not use them when the length was above twice the breadth. Besides, the transverse extending force could only be applied by the sideweights at one or two points, while to the muscle it is all over the side.

Another circumstance indirectly strengthens our case in supposing that a muscle, in virtue of its physical properties, performs the most work with moderate loads. It is the dilemma in which physiologists are placed if they accept the other explanations that have been proposed. For if we suppose that one and the same stimulus will cause a muscle to act more strongly at one time than at another, we cannot place any reliance upon any experiments in which a muscle has to be excited by a given stimulus, *e.g.*, electrotonus.

Or suppose the load acts as a stimulus. We have no facts pointing to this being the case, and in fact the experiments of loading a muscle after the commencement of a contraction seem quite opposed to this solution, because the load would

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act equally as a stimulus during whatever part of the contraction it was applied.

Lastly, that more of the force excited by a given stimulus is converted into work with moderate loads. If this be the case it will be found that there will be less of the force converted into heat as the work performed is increased. But it has been proved by experiment that there is the same, if not more, heat evolved when the muscle is doing more work by elevating heavier loads. This explanation militates against the well-proved law of conservation of energy.

TABLE I.

Bladder filled with air.

| Weights in grammes. | Extension for each weight. mm. | Total extension. mm. |
|---|---|---|
| 0 | 0 | 0 |
| 25 | 8·76 | 8·76 |
| 50 | 4·48 | 13·24 |
| 75 | 4·04 | 17·28 |
| 100 | 4·00 | 21·28 |
| 125 | 4·00 | 25·28 |
| 150 | 4·00 | 29·28 |
| 175 | 4·08 | 33·36 |
| 200 | 4·20 | 37·56 |
| 225 | 4·08 | 41·64 |
| 250 | 4·36 | 46·00 |
| 275 | 4·48 | 50·48 |

TABLE II.

Straight tube with corks at each end, just inflated with air.

| Weights in grammes. | Extension for each weight. mm. | Total extension. mm. |
|---|---|---|
| 0 | 0 | 0 |
| 25 | 5·76 | 5·76 |
| 50 | 5·68 | 11·44 |
| 75 | 5·72 | 17·16 |
| 100 | 6·24 | 23·40 |
| 125 | 6·00 | 29·40 |
| 150 | 6·24 | 35·64 |
| 175 | 7·04 | 42·68 |
| 200 | 7·04 | 49·72 |

TABLE III.

Straight tube with corks at each end filled with water.

| Weights in grammes. | Extension for each weight. mm. | Total extension. mm. |
|---|---|---|
| 0 | 0 | 0 |
| 25 | 3·36 | 3·36 |
| 50 | 2·20 | 5·56 |
| 75 | 2·00 | 7·56 |
| 100 | 1·92 | 9·48 |
| 125 | 1·60 | 11·08 |
| 150 | 1·56 | 12·64 |
| 175 | 1·56 | 14·20 |
| 200 | 1·40 | 15·60 |

TABLE IV.

Same tube as Table III, only filled with air.

| Weights in grammes. | Extension for each weight. mm. | Total extension. mm. |
|---|---|---|
| 0 | 0 | 0 |
| 25 | 2·20 | 2·20 |
| 50 | 2·48 | 4·68 |
| 75 | 2·52 | 7·20 |
| 100 | 2·56 | 9·76 |
| 125 | 2·76 | 12·52 |
| 150 | 2·76 | 15·28 |
| 175 | 2·84 | 18·12 |
| 200 | 2·76 | 20·88 |

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TABLE V.

Oblong bladder 47 × 37 mm., filled with water, and rested between each weight.

| Weights in grammes. | Extension for each weight. mm. | Total extension. mm. |
|---|---|---|
| 0 | 0 | 0 |
| 25 | 7·40 | 7·40 |
| 50 | 5·68 | 13·08 |
| 75 | 5·20 | 17·28 |
| 100 | 4·52 | 21·80 |
| 125 | 4·12 | 25·92 |
| 150 | 3·88 | 29·80 |
| 175 | 3·68 | 33·48 |
| 200 | 3·60 | 37·08 |

TABLE VI.

Same bladder as Table III, with four sideweights each of 50 grms.

| Weights in grammes. | Extension for each weight. mm. | Total extension. mm. |
|---|---|---|
| 0 | 0 | 0 |
| 25 | 3·72 | 3·72 |
| 50 | 2·92 | 6·64 |
| 75 | 2·28 | 8·92 |
| 100 | 1·92 | 10·84 |
| 125 | 2·20 | 13·04 |
| 150 | 1·96 | 15·00 |
| 175 | 1·32 | 16·32 |
| 200 | 1·36 | 17·68 |

TABLE VII.

Oval bladder filled with water extended lengthways.

| Weights in grammes. | Extension for each weight. mm. | Total extension. mm. |
|---|---|---|
| 0 | 0 | 0 |
| 10 | 4·40 | 4·40 |
| 20 | 2·84 | 7·24 |
| 30 | 2·54 | 9·78 |
| 40 | 1·94 | 11·72 |
| 50 | 2·12 | 13·84 |
| 100 | 8·64 | 22·48 |

TABLE VIII.

Same bladder as Table VII, only extended breadthways.

| Weights in grammes. | Extension for each weight. mm. | Total extension. mm. |
|---|---|---|
| 0 | 0 | 0 |
| 10 | 5·20 | 5·20 |
| 20 | 3·12 | 8·32 |
| 30 | 2·40 | 10·72 |
| 40 | 2·16 | 12·88 |
| 50 | 2·00 | 14·88 |
| 100 | 8·00 | 22·88 |

TABLE IX.

Oval bladder filled with water, two sideweights 50 grms. each.

| Weights in grammes. | Height raised. mm. | Work done in mm. grms. |
|---|---|---|
| 25 | 1·92 | 48 |
| 50 | 1·40 | 70 |
| 75 | 1·00 | 75 |
| 100 | 0·60 | 60 |

TABLE X.

Same bladder as Table IX, only filled with air, two sideweights 50 grms. each.

| Weights in grammes. | Height raised. mm. | Work done in mm. grms. |
|---|---|---|
| 25 | 1·12 | 28 |
| 50 | 0·40 | 20 |
| 75 | 0·28 | 21 |
| 100 | 0·20 | 20 |

TABLE XI.

Same bladder, only more distended with water, rest as in Table IX.

| Weights in grammes. | Height raised. mm. | Work done in mm. grms. |
|---|---|---|
| 25 | 3·12 | 78 |
| 50 | 2·52 | 126 |
| 75 | 2·20 | 165 |
| 100 | 1·80 | 180 |
| 125 | 1·40 | 175 |
| 150 | 1·12 | 168 |
| 175 | 0·88 | 154 |

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TABLE XII.

Oval bladder containing water, two side-weights of 25 grms. each, weights raised parallel to long axis.

| Weights in grammes. | Height raised. mm. | Work done in mm. grms. |
|---|---|---|
| 25 | 1·12 | 28 |
| 50 | 1·04 | 52 |
| 75 | 0·84 | 63 |
| 100 | 0·60 | 60 |
| 125 | 0·40 | 50 |

TABLE XIII.

Same bladder and sideweights as in Table XII, weights raised parallel to short axis.

| Weights in grammes. | Height raised. mm. | Work done in mm. grms. |
|---|---|---|
| 25 | 0·52 | 13 |
| 50 | 0·32 | 16 |
| 75 | 0·28[1] | 21 |
| 100 | 0·76[1] | 76 |
| 125 | 0·60 | 75 |
| 150 | 0·40 | 60 |

## PART II.—THE HEAT EVOLVED BY THE PRIMARY OR EXPLOSIVE[2] CONTRACTION OF A MUSCLE PRODUCES PHYSICAL CONTRACTION, WHICH IN ITS TURN HELPS THE MUSCLE TO PERFORM WORK.

For some time I have been convinced that the heat generated by a muscle during contraction is not altogether waste heat as regards the muscular action, but that it occasions a secondary contraction coincident with the primary. This secondary contraction from its nature I propose to call *physical contraction*. My attention was drawn to this subject by the experiments showing that *the volume of a muscle is less* in a contracted state than in a state of rest, at the same time *its temperature is increased*, in this respect acting in a contrary manner to most substances.

*Exp.* 1.—The gastrocnemius of a recently killed frog was suspended and the lower end was attached to the recording needle (c Fig. 1) used in the former experiments, the pointer E being terminated by a scale. Instead of the scale pan D a weight from 1 to 5 grms. was attached to the needle. After waiting a short time to allow the muscle to extend as far as possible with the given weight, it was covered by a double tin containing warm water, so that the muscle might become heated gradually by radiation. The inside of the tin was

[1] Explanation in text, p. 53.

[2] By explosive contraction is meant the contraction induced by some stimulus, whether direct or through a nerve.

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kept slightly moistened. In about 30 to 60 seconds, when the temperature as measured by a thermometer had risen to about 97° F. the lever began to rise slowly, and when the point had risen about 2 mm. the tin was removed, and another, either at the temperature of the room or else one cooled by ice, was substituted, and then in a short time the lever gradually fell until it reached the position it started from. With care this experiment may be repeated two or three times. If, instead of the tin being hot, it is cooled by ice a slight elongation of the muscle *may* be obtained, but quite as often no alteration in length will occur.

Here the shortening of the muscle is evidently not dependent upon heat acting as a stimulus because of the slowness of the contraction with warmth and expansion with cold, and because of the method of applying the heat, so that the whole muscle may become gradually and equally warmer, thus rendering it impossible for an explosive contraction to take place.

There are three reasons why it is extremely improbable that this action is due to incipient rigor mortis. First, because the heat was not sufficient to cause death, not having been raised above 102° F. Secondly, if rigor mortis had commenced the muscle would not be able to expand as it regained the temperature of the air. Thirdly, that this action is lost or, at least, diminished to a great extent before perceptible rigor mortis sets in.

There remains now only one other explanation, viz. that heat causes contraction, not by any chemical or nerve action, but merely through the physical properties of muscle, *whilst under a strain*, exhibiting in this respect properties similar to what have been found in india rubber.

During a series of experiments upon the temperature of substances during elongation from strain Professor Joule found the majority became cooler, but on the other hand india rubber became hotter. Sir William Thompson then suggested that if the temperature of india rubber rose during extension, heat would cause it to contract while the strain was still applied. In consequence of this remark an experiment was tried and his theoretical deduction confirmed. Another point that may be noticed here is that india rubber

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was found to be more elastic as the temperature within certain limits was increased.

Judging from analogy we may expect that if *heat does cause physical contraction of muscle under strain* we shall find that mechanical extension will cause it to become hotter, and as soon as the strain is removed it will become cooler. If this be the case we may consider physical contraction resulting from heat as proved.

*Exp.* 2.—A thermopile consisting of six pairs of bismuth and antimony was let into a piece of wood, so that the end was almost flush with the surface, and upon this the gastrocnemius of a recently killed frog was laid, one end being fastened, and to the other was tied a thread which passed over a pulley in such a manner that a weight could be attached to it for stretching the muscle, whilst it remained in contact with the thermopile. A glass was placed over the muscle and thermopile to exclude all draughts, &c. The thermopile was now connected with a mirror galvanometer which was not at all sensitively arranged, and after the mirror had come to rest 100 grms. was fastened to the thread, and immediately the muscle was extended the light on the scale travelled to the left twenty or thirty divisions, but when the weight was removed the light moved backwards. I then touched the thermopile with my finger and the light deflected to the left, showing conclusively that during the extension of a muscle by mechanical means heat is evolved, also that it cools as it passively contracts.

From Exp. 1 it might be inferred that because a muscle when loaded contracts as it is warmed, it will on the other hand extend when cooled. This, however, does not follow, and in fact never can to an equal extent, because cold produces a loss of elasticity and extensibility, which, however, is restored upon the application of warmth. In this respect muscle follows the ordinary custom of organic substances.

The question, "How far can this physical contraction of muscle assist in performing work?" naturally arises, but unfortunately we are unable to answer it. However, we must draw attention to two points; the one is that this physical contraction is proportionately much greater the higher the temperature, as long as this does not exceed

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the limit compatible with life, so we may safely surmise that this property has a larger influence in warm-blooded than cold-blooded animals. We are ignorant of the exact temperature momentarily attained by muscle during contraction, and as this must be higher than what can be measured we may conclude that this property of muscle is more important than at first sight it would appear to be; the second point, that even if the physical contraction does not assist directly a muscle in performing work, yet indirectly it does, because it places the muscle in the most favorable condition for contraction, and because a smaller stimulus is required for exciting contraction than without its aid, thus affording an explanation of the well-known fact, "moderate warmth renders muscle more irritable."

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# MISCELLANEOUS CASES AND OBSERVATIONS IN OPHTHALMIC SURGERY.

By E. NETTLESHIP.

## On Relapses of Irritation after Abrasion of the Cornea.

It is, I believe, not generally recognised that in a few cases an eye in which an abrasion of the cornea has occurred may, without any fresh injury, become the seat of another attack just like the first. Though at first naturally doubtful about this, I have now noticed the occurrence often enough during several years to feel quite sure that I am correct. As very often a patient with corneal abrasion is a woman suckling, the occurrence of a second accident like the first, from the baby putting its finger into its mother's eye, has to be carefully excluded in cases where we suspect this spontaneous relapse of irritation.

In the cases of genuine relapse without a second injury, it will generally be found that the eye had quite recovered from the first abrasion and remained well for some weeks and even months, and that then, without apparent cause, it again became bloodshot, painful, and intolerant of light. The eye when seen usually shows all the signs of a new abrasion, a little patch of epithelium being disturbed in some part, just as if a scratch had occurred the day before, and only the patient's positive denial of this, repeated definitely

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in each case, seems to make such an assumption impossible. The relapse is of course always in the eye which had previously suffered. I think that I have once or twice seen a third attack in the same eye. One of the last cases that I saw was in an anæmic, badly-nourished young man who had been to me several months before for a scratch on his left cornea. There was now a small, irregular, sharply-defined area of denuded epithelium, without infiltration, at the centre of the cornea. He said that the eye had never been quite strong since the scratch, but that it had in the last few days become much worse without, so far as he was aware, any cause whatever. As already said, I believe that the eye in these cases usually gets well between the accident and the relapse, and in that respect the case just mentioned differs from the rule.

The tendency towards imperfect repair when the health is feeble which these cases illustrate, is of practical interest on account of the part involved, and further because the relapse exactly reproduces the characters of the original lesion, for there seems to be scarcely any more tendency towards deep and progressive inflammation or ulceration in the second attack than after the original scratch.

### Asthenopia after Extraction of Cataract.

Patients who have been operated on for cataract sometimes complain that they cannot continue to look at near objects for long together, as if from tiring of the ciliary muscle. It is just possible that the ciliary muscle may continue to act and get tired in these patients, but more probably the symptom is an indication of exhaustion of the retina rather than of weariness of the ciliary muscle, possibly also the tiring of the internal recti may take a share. I have not, up to the present time, noticed any relation between the tiring here alluded to and the attacks of red vision which have lately engaged attention and of which I have seen several examples. Neither old people with normal eyes, nor even hypermetropic people in their old age, are often subject to the tiring above noticed; but every ophthalmic surgeon must have seen many

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senile myopic persons whose chief complaint is that they can no longer use their eyes for so long as formerly. This complaint is found quite as often in the higher degrees of myopia (6 D. or more), as in the lower degrees where it might sometimes be attributable to uncorrected presbyopia. Perhaps the difficulty may be set down to exhaustion of the central part of the retina, which is not only old, but degenerated in consequence of the myopic damage of the choroid on which it lies. We as yet know too little about the relation of cataract to the condition of the other parts of the eye to affirm that the retina and choroid are usually as sound in eyes affected with senile cataract as in those where the lens remains clear throughout life; eyes in which senile cataract develops may sometimes be just those in which senile retinal asthenopia would naturally have occurred had the lens remained clear; and this may explain the occurrence of such asthenopia after a cataract has been removed.

### Rapid Spontaneous Maturation of Cataract.

Patients who say that the sight of one eye has suddenly failed are so often mistaken, and cataract almost without exception progresses so gradually, that a patient who asserts that the sight of his cataractous eye has become very much worse within a day or two would generally and rightly be disbelieved. But there is no doubt that senile cataracts do sometimes advance so rapidly that the patient may be able to read fairly well one day and unable to see a single word of even much larger type the next; and this may occur without there being the least reason to suspect other disease such as retinal hæmorrhage. Probably the cataract in such cases has occurred in the form of large cortical spokes, with clear intervals, and through one or more of the latter the patient has been accustomed to read; the rapid encroachment of the opacity over a comparatively narrow, clear rift of this kind would account for the occurrence referred to. Instances of this rapid maturing of senile cataract must no doubt have been seen by all observers of large experience, and the following case, which was the first trustworthy one of the kind that I

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had ever seen, is interesting only because its authenticity is beyond dispute. Since I saw this patient several other cases of the same kind have come under my notice.

I saw Dr. B. W— (P. 7, p. 19), æt. 38, in August, 1882. His right eye had been blind from detachment of the retina for ten years and during that time he had had to depend entirely on the left, which he knew to have been partially cataractous for about sixteen years. Until two or three weeks before I saw him he could read the newspaper with the aid of his glasses and the use of atropine, and his sight had not been getting worse. Then "suddenly" one day he found it much worse; he had been able to read as usual one evening, but could scarcely read at all next morning. Until this day he had always read his own letters at breakfast; this morning he could not do so and has never done so since. He had been accustomed to see with the part of the field a little downwards and outwards of the centre, and it was just in this part that he found the new obstruction.

On carefully trying him I found H. m., about 2·5 D.; V. $\frac{6}{60}$, barely; with his +6·5 D. he could see words of 14 or 12 J. The pupil was under atropine and measured 6·5 mm.

The lens showed dense white radiating opacities at the centre of the anterior surface with diffused whitish mistiness of the body of the lens; the anterior opacity was least dense in the downward and outward direction; probably this part had been clear until the recent failure, for it corresponded precisely with the recent defect in his field. The fundus, which could be very imperfectly seen, appeared healthy; no retinal detachment and no disease of the vitreous.

I saw him a month later, on the 25th of September. He had had a second rapid failure. On the 21st he had watched lawn tennis, and had managed to play whist in the evening, but had thought the sight not quite so good as usual all day. On the 22nd he woke up almost as blind as at present. 25th, "Hardly counts fingers at 10″, lens densely opalescent throughout, posterior cortex looking rather more so than nucleus."

The other eye had been operated by needling and suction twelve years previously; it did perfectly well and was the

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better of the two for two years, when it gradually failed and went blind in three months from detachment of retina; it had given no further trouble.

His cataracts were not congenital, for he saw well till he was about twenty-two, and in his second or third year at college. He attributed the failure to the effect of a long course of arsenic taken just before the sight began to go, for a chronic eczema-psoriasis from which he had suffered since he was three weeks old. He still suffers from it and he believes he has a similar disease of the mucous membrane of his bladder, since he has passed mucus for many years; "once a vessel broke and the bladder got full of blood." Dr. W. also suffers from spasmodic asthma.

It seems clear that this gentleman was born with his skin in a state bordering on disease and it is certain that his entire epidermis, and probable that some of his mucous membranes have been in an unnatural condition nearly all his life. It seems not unlikely that the epidermic structures forming the crystalline lenses suffered from the same error or defect in vital properties as the skin, and that he was born with a predisposition to cataract. His teeth are large and strong, but there is a tendency to absorption of the alveoli; his father lost his teeth from the same cause somewhat early.

## Three Cases of Ocular Diphtheria.

The two first of the following cases are examples of the rare occurrence of diphtheritic inflammation of the conjunctiva with diphtheria of the throat. Case 1 is still further exceptional in the fact that the disease began on the conjunctiva before attacking the throat. In both these cases there was a conspicuous absence of that brawny infiltration of the eyelids and ocular conjunctiva, which many writers, following von Graefe, consider a necessary symptom of "true diphtheritic," as distinguished from "croupous" ophthalmia.[1] The absurdity of such an artificial definition could not be more aptly illustrated than by these two cases.

[1] See vol. x of these 'Reports,' p. 21.



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The third case was a very peculiar and uncommon one, though a few similar ones are on record.

CASE 1.—*A case of fatal diphtheria beginning on the conjunctiva of one eye and spreading to the nose, throat, and opposite eye.*

(Notes by Dr. S. W. SUTTON.)

Emily P—, æt. 1, was brought to the eye department of St. Thomas's Hospital, on October 22nd, 1884, having then been ill for about twelve days. She was first taken ill on the night of the 9th, when she vomited. On the morning of the 10th the left eye was bloodshot. The next day, the eye being swollen, the child was taken to a doctor, who, three days later, said it was a case of diphtheria of the eye, and from that date attended at the child's home. The swelling then spread to the right eye, and the disease next attacked the nose and mouth, causing great difficulty in breathing. The nose and mouth were said to have been filled with a "thick fluid-like matter." No history of contagion could be obtained.

At the time of admission, October 22nd, the child was pale and looked very ill. Both lids of the left eye were lined with a moderately thick adherent membrane, but the substance of the lids was not infiltrated or swollen. The cornea was represented by a thick, white, soft slough, which appeared to be continuous with the diphtheritic membrane covering the conjunctiva. The centre of this slough being taken for membrane and pulled away gently with forceps, pigment from the iris was exposed behind it.

The fauces were covered with membrane, especially on the left side, and there was discharge of a purulent, frothy nature from the nares. The breathing when quiet was not much affected; but on crying, or making any unusual exertion, there was occasional stridor. Respirations 52; pulse 144; temperature 100·4° F. The right eye, which had been affected after the left, had quite recovered, and from the mother's account it had evidently never been very bad.

The child was taken into one of the small wards under

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Dr. Bristowe's care and put upon milk diet, with two oz. of brandy. A lotion, consisting of 3 grs. of sulphate of quinine to an ounce of water, was ordered, with which the eye was to be washed out every hour; and a teaspoonful of borax and honey to be taken every hour.

The next day the general condition was much the same, but there was perhaps more membrane on the upper lid, and there were diphtheritic-looking patches on the angle of the mouth and on the border of the nostrils.

On the 24th the child was rather worse, respiration being more difficult, and the temperature rising to 102·8° F. Behind and below the left mastoid process a large swelling was noted, extending somewhat down into the neck, and up over the occipital region; it was rather soft, but not fluctuating. In the evening the right eye (which had been previously attacked and recovered) looked weak and watery.

The next day (25th) there was a little membrane on the lids of right eye, and a patch on the under surface of the tongue; and on the 26th, thick membrane lined the ocular surface of both lids of the right eye.

27th.—Right eye much the same; no swelling of lids, and cornea quite clear. Left lids much more swollen and dusky, but not brawny, the sensation being as of soft subcutaneous infiltration. The nose remains about the same, but the whole mouth is lined with membrane. The swelling behind the mastoid process has suppurated and been opened.

28th.—Was very restless all through the night, never sleeping more than a few minutes at a time. Membrane on right lid much thicker and more slough-like.

29th.—Membrane in right eye more diffluent-looking and commencing to separate; cornea perfectly clear. The left eye is somewhat collapsed. The child swallows with more ease, and takes nourishment well. She still shows a good deal of strength in kicking off the bed-clothes, and struggling when attended to by the nurse.

30th.—The lower part of the right cornea has become infiltrated.

In the course of the following night the child became insensible, and respirations were very rapid. In the course

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of the next day (31st) the temperature, which hitherto had only once reached 103°, rose to 108° in the early morning, fell to 103° at midday, and rose again to 107·6° at 4 p.m., when the child died.

At the post-mortem examination on November 1st, Dr. Hadden made the following record:

A well-nourished child. Rigor mortis present. Left eye almost entirely destroyed. Right eye still covered with false membrane. Mucous membrane of the hard palate white, no membrane except just a little on the right side. There is some soft material, apparently membrane, in the meatus of the left ear. There is some purulent fluid in the orifices of the nostrils. No membrane is present on the tonsils or soft palate, but the right tonsil is ulcerated on the surface, and there is a small superficial ulcer on the mucous membrane just to the right of the base of the epiglottis. There appears to be some membrane on the under surface of the tip of the tongue. The air tubes contain pretty abundant muco-purulent fluid. Lungs, both crepitant, except that there is a streak of collapsed lung tissue all along the posterior border. The gall-bladder contains a little watery bile. The upper surface of the liver is marked by the ribs, and its substance is pale, but it is otherwise healthy. The kidneys are apparently healthy. In the intestines there is one Peyer's patch rather red.

CASE 2.—*A case of fatal diphtheria beginning almost at the same time in the throat and conjunctiva. Only one eye affected.*

(Notes by Dr. S. W. SUTTON.)

George E. P—, æt. 8, was brought to the eye department at St. Thomas's Hospital on December 16th, 1884, when the following condition was noted. There was muco-purulent ophthalmia of the right eye, with membrane on the free border of the upper lid and surrounding the eyelashes, but not passing to the under surface of the lid. The lower lid and lower palpebral conjunctiva was lined with membrane. There was no chemosis, and the cornea was normal. The

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pillars of the fauces on both sides, the tonsils, uvula, and soft palate were covered with a thick, grey, ashy membrane; the glands about the jaw on both sides were enlarged.

There was also abundant herpes about the right angle of the mouth and on the right cheek. The nostrils were stuffed, the tongue coated with a thick white fur, and the breath very offensive. Respiration, however, was easy, and the temperature normal. The child was anæmic, and looked very ill.

On being examined by one of the physicians after admission, there were some signs of bronchitis; the urine contained albumen and a copious deposit of lithates.

The history showed that the child first appeared to be unwell on the 11th of December, five days before admission, when he complained of pain in his right eye, and the eye was noticed to be bloodshot. On the 13th he complained of sore throat, and the "breaking-out" about the mouth was noticed. The only other child in the house had a sore mouth, said to have followed a sore finger. The two children had been playing together.

A lotion was ordered, containing three grains of sulphate of quinine to an ounce of water, with which the eye was washed out every hour, and the mouth was swabbed out with a solution of bicarbonate of soda. Milk diet, with two ounces of brandy, was given. On the following day the eyelids were more swollen, the cough was rather croupy, and the temperature rose to 101° F.

On the 18th (the eighth day of the illness), the membrane lining the lids was thinner and less yellow, but the lids themselves seemed more swollen, and the membrane along their free borders was not changed. Voice had become quite croupy. Herpes drying up and not diphtheritic. Temperature 101° F. In the course of the following night he had an attack of dyspnœa, which, however, passed off.

The next day he complained of his throat being sore, but took food well. After the mouth had been swabbed out he spat out a large piece of membrane which left the palate quite clean.

On the 20th (the tenth day of the disease) the eye had considerably improved, the membrane on the lids was thinner

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and coming away. The child, however, was very prostrate, and died about noon. There was no urgent dyspnœa.

At the post-mortem examination, on the 21st, Dr. Hadden found thick white adherent membrane on the right tonsil and adjoining posterior pillar, in the larynx, trachea, and bronchi as far as the tubes of the second division; the smaller tubes contained muco-puriform fluid; the membrane in the bronchi was looser than in the parts above. Lungs œdematous and congested; a little scattered broncho-pneumonia and a little collapse. Right pleura extensively adherent; left, healthy, no adhesions. Slight excess of fluid in pericardium. Glands on right side of neck enlarged. Other viscera healthy.

CASE 3.—*A case of diphtheritic inflammation of the skin of the eyelids following a stye and leading to extensive sloughing of the upper lid. Successful plastic operation.*

(Notes by Mr. F. W. MARLOW.)

Henry W—, æt. 5, was brought, from a village in Kent, to the Moorfields Hospital, on September 26th, 1883, when the following history was given:—On September 10th a small "stye" was noticed on the edge of the left upper lid. The boy complained of a good deal of pain in it; and the next day the lid became inflamed and swollen, so that the "stye" could not be seen. The swelling increased for three days, when he was taken to a doctor, who ordered poppy-head fomentations and bread poultices. At that time there was considerable swelling of lids, but the child could open the eye a little; and there was a red spot on the upper lid, but no sore places. About ten days before being brought to the hospital raw places appeared on the upper lid, and white patches appeared on the cheek about the same time. There was a considerable discharge of white matter, and for about twelve days the child was unable to open his eye.

The poultices and fomentations seem to have been used for two or three days, then vaseline for a like period, and, lastly, some kind of "disinfecting" ointment for two or three days before coming to the hospital.

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At this time the boy's sister was at home with a sore throat; the boy had himself had a slight sore throat for a day or two, five or six weeks before. No other clue could be obtained.

He had chicken-pox and "low fever" two and a half years before, but never scarlet fever, diphtheria, or measles. No rash had been seen on the body, and the boy was thought to be in good health until the eye became bad.

He was transferred the same day (Sept. 26th) to the Ophthalmic ward at St. Thomas's Hospital. At the time of admission his condition was as follows:—Nearly the whole area of the left upper eyelid was gangrenous and blackish, but the borders of the slough were yellowish and sharply defined, and separation seemed to have begun. The slough stopped just short of the free border of the lid, and the lashes were not involved, but the greater part of the thickness of the lid seemed to be included; in consequence of the loss of support above, and the swelling of the free border of the lid, the latter was everted and the conjunctiva exposed. The exposed part was covered with a thin membranous discharge. Beyond the limits of the main patch were several separate, small, round patches of slough or membrane, adherent, whitish, and surrounded like the main patch by a roseolous zone; but there was no brawny infiltration. One, the newest, was quite away on the right forehead, and seemed to have begun as a purulent vesicle which had dried up with a central depression, and was passing into a slough. There was a similar recent patch on the lower lid. There seemed no tendency on the part of these patches to spread, though the disease was said to have "spread up from the 'stye.'" Probably the secondary patches were due to poulticing. The eye could not be seen. The temperature varied between 99° and 100° F.

A dressing was ordered of iodoform in vaseline, ten grains to the ounce.

Sept. 27th.—Some of the patches of whitish membrane have come away, leaving a pus-secreting surface exposed, the discharge of pus being fairly free. Constitutional disturbance at this time very slight, the temperature normal, food taken well, and the child is fairly lively.

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29th.—Less swelling of lid, and the main patch of slough has nearly separated. The outlying patches are indolent, and show no tendency either to spread or heal.

Oct. 1st.—Cornea partly seen and seems normal.

5th.—The ulcer seems to have spread a little outwards, but the most outlying patches have healed.

8th.—An attack of erysipelas set in, commencing at the wound and spreading down the cheek, accompanied by vomiting, quick pulse (140), and high temperature (104·4°).[1]

15th.—Erysipelas has subsided. The wounds now dressed with a lotion of sulphate of zinc. The main ulcer looks much more healthy, and is contracting; the margin of the upper lid does not go so low down as it should. The separate patches have all healed, leaving well-defined white scars.

19th.—Chloroform was administered, and an oval piece of skin was removed from the right arm, and after having been carefully freed from subcutaneous tissue was placed on the granulating surface of the upper lid. The lid was tied down by a suture to the cheek, and dressed with oiled gutta-percha tissue and lint.

20th.—During the night the patient pulled out the tying-down suture and gutta-percha tissue; but the skin remains in situation.

24th.—The flap has not taken, and the wound has healed with eversion of the lid, the eyelashes being only a short distance below the eyebrow, and closure of the lids over the cornea being quite impossible. The patient was discharged for a time.

Jan. 15th, 1884.—Readmitted. The edges of the lids were pared and were brought completely together by fine sutures with the intention of getting union before making a fresh attempt to rectify the deformity. The traction on

[1] On Oct. 9th the temperature ranged between 104·8° and 101·4°; on the 10th between 103·4° and 101·8°; on the 11th between 104·6° and 102°; and on the 12th between 102° and 101°. After this date the temperature fell considerably, and did not again rise above 101°. It finally became normal on the 15th, when the erysipelas had disappeared. There is no note about the urine or as to the state of the cervical glands. I have not the least doubt that the urine was examined and that had albumen been found the fact would have been recorded.

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the sutures was, however, so great that union took place only at the outer and inner ends of the lids.

May 7th.—The boy having been admitted for third time, the cicatricial tissue was carefully dissected away from the upper lid, exposing the tarsus. A large flap with a broad pedicle was taken from the temple and brought, by twisting, into the gap and retained by fine sutures.

14th.—The stitches were removed, the whole flap having united and healed by first intention. The patient was discharged from the hospital a few days later with an excellent upper lid.

P.S.—He was brought up from his home in the country about a year after the last operation. There was now extremely little deformity, the upper lid being of full size and the eyelashes preserved and regular; he could raise the eyelid voluntarily but not to its full extent; the scar on the temple, whence the flap had been taken, caused but little disfigurement.

It seems probable that in this case the inflammation was transferred from the border of the lid to the surrounding skin through the action of the fomentations and poultices, as we constantly see in cases of blepharitis and conjunctivitis so treated, especially in children. But why the purulent vesicles or excoriations so caused should have taken on the diphtheritic type of inflammation must remain unexplained unless it be assumed that the sister's sorethroat was diphtheritic.

## Note on the State of the Optic Disc after Recovery from Acute Glaucoma. (With Cases.)

If the optic disc be examined after all active symptoms of an attack of severe acute glaucoma have passed off, it will in some cases appear quite natural and healthy, whilst in others, although its surface is not in the least depressed, it shows evident change, even although the sight be very good. It is often very pale as if atrophied, and frequently shows the signs which are commonly taken to indicate previous inflammation,—slight haziness of margin

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and white lines along the vessels. Although we never have the opportunity of seeing with the ophthalmoscope the appearances of papillitis in glaucoma, because in the cases where it probably occurs the haze of the media prevents an inspection, there can be no reasonable doubt that it does take place in some degree. I have only twice seen appearances pointing to slight previous swelling, even in cases examined soon after the acute attack[1] (Cases 5 and 11).

These clinical observations are in harmony with the statement of Dr. Brailey that in glaucoma, whether primary or secondary, a chronic inflammation occurs in the optic nerve leading to hypertrophy of its interstitial connective tissue and thickening of the sheaths of the central vessels.[2] I have no clinical evidence to quote, either for or against Dr. Brailey's opinion that, in primary glaucoma, these changes begin before the occurrence of glaucomatous symptoms; but some of my cases showed ophthalmoscopical signs of inflammation within a comparatively short time of the onset of the disease.

Case 1.—Dr. M—, æt. 36. (P. 8, 13.) R. mild acute glaucoma of six days' duration on February 12th, 1883, without previous warning. V. $\frac{6}{18}$, not improved; T. + 1, cornea steamy, p. larger than L. Oph., no cupping, arterial pulsation very easily produced by pressure, and perhaps spontaneous (direct examination); marked thickening of arterial sheaths on and beyond O. D.

L. n., Em. or My. = 0·5, Oph. n.

R. entirely cured by eserine in about a month.

July 23rd, 1883.—R. $\frac{6}{6}$ partly, not improved, T. and p. n. Oph., "no trace of cupping of O. D.; but it is decidedly paler, and its area less clear than the L., and there are very definite white lines along some of the arteries."

Case 2.—Anne H—, æt. 58 (St. Thomas's). L. acute glaucoma beginning on December 13th, 1880; eye was "blind" by the 18th. Iridectomy was not permitted till

[1] But it is impossible to agree with Dr. Brailey's statement that "many cases are observed clinically in which a swollen disc with clear, and therefore presumably normal vitreous, precedes the increased tension and invisible fundus of glaucoma ('Guy's Hospital Reports,' vol. xxvi, p. 489).

[2] Brailey and Edmunds, "On the Condition of the Optic Nerve, Ciliary Body, and Iris in increased Tension," 'Ophthalmic Hospital Reports,' x, 86.

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20th, when it was done upwards, the symptoms being severe and the eye having no p. l. The R. was healthy.

January 3rd, 1881.—L. has now bad p. l. and T. less than R.; O. D. fairly seen, looks too red, and is certainly not cupped; no hæmorrhages seen.

Case 3.—Mr. John R—, æt. 42. (P. 9, 5.) L. acute glaucoma on November 4th, 1883, going to almost complete blindness in a few hours, then improving a little.

9th.—V. = fingers barely at a few inches. T. + 3; œdema of lids and conjunctiva, a. c. moderately shallow.

11th.—Iridectomy.

January 15th, 1884, and Oct., 1885.—L., V. $\frac{6}{9}$ slowly, corrected. Oph. "O. D. decidedly more hazy than R." (R., H. m. 3 D., V. $\frac{6}{6}$.)

Had for years worn only + 1·75, and would not wear stronger.

Case 4.—Mary B—, æt. 46 (St. Thomas's), December 16th, 1880. L. Very acute, severe glaucoma, with T. + 3, extremely shallow a. c., and V. reduced in two or three hours from normal to less than counting fingers, but the eye not at all congested. Attacks of fog and rainbows for a year before, but a few days previously V. had been $\frac{6}{6}$ partly with + 1·5 D., and T. n., though the a. c. was extremely shallow.

R. Shrunken after an operation in the country for an attack apparently like the present one in L.

L. Iridectomy upward at 3.30 p.m., on December 16th, within an hour of the serious failure of V.

December 23rd.—V. with a + cyl. = $\frac{6}{12}$.

February 7th, 1881.—T. n., a. c. still extremely shallow; reads small print well. Oph. n.

September, 1881.—T. n., "O. D. n. or slightly misty."

August, 1883.—T. and a. c. as before, iris seems almost, if not quite, in contact with cornea. Ophthalmoscopic note (made before referring to last note): "O. D. slightly misty but of good colour and not in the least cupped." V. remains quite good.

Case 5.—Dr. M—, æt. about 65. (P. 7, 191.) L. Acute glaucoma, probably preceded by some mist for some time, but eye had always been defective since a blow in youth.

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Iridectomy about thirty-six hours after acute symptoms began (January 13th, 1883); then T. + 3, V. = fingers badly at 1′; a. c. good; cornea steamy.

March 6th.—L. With + 5 D = 16 J. and letters of 14 J.; T. n.; media clear. "O. D. pale all over, and arteries diminished, no trace of cupping, indeed it looks as if a little swollen, a parallax being obtained between arteries and edge of O. D., and the vessels bending outside the edge of the O. D."

R. H. m. 2·5 = $\frac{6}{6}$.

Case 6.—Mr. J. M. W—, æt. 51. (P. 11, 16.) R. Acute glaucoma beginning February 20th, 1885; not very severe, though causing a staphyloma at the upper equatorial region. Has been occasionally threatening some two or three months, and once a little attack which lasted a few days.

March 15th (first seen).—T. + 3, nearly; V. ō. + 7 D. = 19 J.

17th.—Iridectomy.

May 4th.—V. ō. + 4 D. cy. $\frac{6}{9}$, partly.

June 4th.—Oph., "O. D. slightly pale and its tissue misty; some haze of lower outer margin; scleral ring well marked." Staphyloma at equator unaltered.

L. began a few days after R. and never got so bad. Seems not to have had prodromata. Iridectomy at same time as on R.

May 4th.—V. ō. + 4 D. cy. $\frac{6}{9}$.

June 4th.—Oph. "O. D. perfectly clear and no scleral ring."

Case 7.—Sarah M—, æt 59 (St. Thomas's), May 30th, 1883. R. threatenings for the last two months; subacute glaucoma with pain, three weeks. L. Absolute glaucoma two years; lens opaque.

June 13th.—R. T. + 3 or more; counts fingers at 1 m.; iridectomy upwards. Iridectomy at the same time on L.

25th.—R. O. D. rather pale all over, but quite flat, vessels a little diminished, no hæmorrhages seen.

July 17th.—V. with + 2 D. = $\frac{6}{36}$.

January 17th, 1884.—V. (corrected) = $\frac{6}{36}$ and letters of 12 J.

Some little time later sclerotomy was done downwards

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for return of chronic symptoms, but there are no notes of the final result.

Case 8.—John G. N—, æt. 57 (St. Thomas's). Very gouty and cachectic; a painter. R. Rainbows for four or five years; acute glaucoma September 16th, 1882. L. no symptoms noticed till September 28th (twelve days after R.), when acute glaucoma came on.

Seen on October 4th.—R. T. + 3, no p. l., O. D. cannot be seen. L. T. + 2, counts fingers in temporal part of F., a. c. of good depth; p. 6 mm.; O. D. "palish and probably hazy." Double upward iridectomy at this date.

December 4th, 1882, July 20th, and November 26th, 1883. —R. No p. l., fundus quite dark, probably from retinal detachment, but eye gives no trouble.

L. With + 3 D., reads words of 14 J. badly; T. n.; O. D. very pale, stippling of lamina cribrosa well marked, decided, though very shallow, cupping.

Case 9.—Eliz. O—, æt. 68 (Moorfields), May 23rd, 1883, admitted at the Moorfields Hospital with acute glaucoma of L. which had set in with severe pain and vomiting nine days before. The cornea was steamy, a. c. shallow; T. + 3, and V. only 20 J. The other eye had been excised some time before; the notes giving no other information.

L. Iridectomy upwards on day of admission.

May 30th.—V. with $\left\{\begin{array}{l} + 4{\cdot}5 \text{ D. s.} \\ + 1{\cdot}5 \text{ D. c.} \end{array}\right. = \frac{6}{12}$ partly. A. c. very shallow; T. n. or −.

June 2nd.—V. same; iris seems to touch cornea. Retinal vessels fairly seen, but O. D. not seen; no hæmorrhages discovered.

August 5th, 1885.—V. with $\left\{\begin{array}{l} + 4{\cdot}5 \text{ D. s.} \\ + 1{\cdot}5 \text{ D. c.} \end{array}\right. = \frac{6}{6}$ partly. With + 7 D. reads 1 J. well at 22 cm. Media clear, a. c. very shallow; T. n.; O. D. pale but not cupped, margin slightly irregular but well defined, no white lines along vessels.

Case 10.—Charlotte B—, æt. 48 (St. Thomas's), May 14th, 1881. R. Acute attack of glaucoma, which remitted; two months before, I had found H. m. 3 D. and V. = $\frac{6}{6}$.

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23rd.—T. + 2. Eserine ordered.

24th.—T. ? +. A. c. still very shallow, but she can read 1 or 2 J. with the eye. She now permits iridectomy.

June 2nd.—V. with + 1 D. = $\frac{6}{18}$; + 4 D. reads 8 J.

November 23rd.—F. n. Oph. O. D. both by direct and indirect examination, rather grey, margin not quite clear, arteries and veins of full size and all bordered, both on the O. D. and a little beyond it, by very marked white lines.

June, 1883.—T. n., Oph., O. D. hazy, very marked white lines along all the vessels, no trace of cupping.

December, 1883, and March, 1884.—A. c. very shallow. V. (corrected by glasses) = $\frac{6}{12}$ and 1 J. Has occasionally had slight threatenings.

The L. had been blind for more than two years from chronic inflammatory glaucoma, when R. was attacked. Iridectomy, done two months before the R., gave only temporary relief to pain.

Case .11—Elizabeth P—, æt. 49 (St. Thomas's). Occasional attacks of mist, sometimes severe, for two years before admission. No rainbows till four months before admission.

January 10th, 1881.—R., H. m. 1 D. V. = $\frac{20}{50}$; with + 3 D. = 1 J. at 22 cm.; T. + 3 nearly; F. much contracted upwards and inwards; P. about 3 mm., acts fairly both to light and accommodation; fundus badly illuminated.

L., H. m. 1 D. V. = $\frac{20}{50}$; with + 3 D. = 1 J. at 22 cm.; T. + 2; F. slightly contracted upwards and inwards; P. a little larger than R., but acts well to light and accommodation.

31st.—Iridectomy upwards in each. Eserine was tried carefully for the three preceding weeks, but its results were uncertain and it gave much pain.

February 14th.—R. T. ? +. O. D. pale all over and cupped at lower part; veins tortuous. V. with + 1 D. $\frac{20}{100}$.

L. T. n. O. D. slightly pale all over, no cupping, upper margin looks as if rather swollen. V. with + 1 D. = $\frac{20}{100}$ ($\frac{6}{36}$).

November 20th, 1884, and July 9th, 1885.—Condition the same in each eye. V. $\frac{6}{18}$, with + 0·5 D. = $\frac{6}{12}$; with + 4 D. reads 1 J. T. n. in each, but slightly more in R. than in L. Oph., O. Ds. very pale (grey pallor) all over, margins

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quite clear but rather ragged, shelving "physiological" cupping, but no bending of vessels at borders of O. D., white lines along the veins.

CASE 12.—Jane S—, æt. 44 (St. Thomas's). L. Acute, passing into chronic inflammatory, glaucoma.

December 2nd, 1880, three months after onset, T. + 3; no a. c.; good p. l., but V. said still to vary much; p. small (only 2·5 mm.). At this date, R. T. ? +; F. n.; V. with − 4·5 D. = $\frac{6}{18}$, reads 1 J. at 7″; p. only 2 mm., but acts fairly; a. c. rather shallow; O. D. not cupped, moderate myopic crescent. Ordered blisters to L. temple, advised iridectomy.

December 7th.—This morning bled freely from L. nostril, a very unusual thing for her. Appearance of L. eye has altered much; p. now 4·5 mm., but fixed; cornea clear but T. still + 3; episcleral venous congestion now well marked; O. D. easily seen owing to the clearing of the media and enlargement of p.; O. D. very grey, deeply cupped and vessels drawn over to nasal side, no pulsation and vessels not altered in size; M. about 6 D.; sees hand moving in lower and outer part of F. only. Admitted and iridectomy done in L.

December 20th.—Now only has bare p. l.; media (vitreous) too hazy to allow any details to be seen, though plenty of light passes.

January 4th, 1881.—L. T. n., sees hand better.

21st.—L. Sees hand moving; says that sometimes, especially towards midday, she sees much better with this eye and can even see to take up a teacup. Opacities, large and circumscribed, in vitreous. No symptoms in R.

June, 1881.—L. Sees hand moving, but only when close to her face; T. more than R. Has been using eserine till lately, latterly it caused irritation.

December 15th.—L. T + 1, or more.

June 3rd, 1882.—R. Acute attack of redness with severe pain in forehead and occiput, nausea (but no vomiting) and dimness "like a thick summer fog." The dimness gradually passed off.

4th.—Came to hospital. R. a. c. extremely shallow; T.

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+ 1, barely; slight congestion; p. small (very likely had used eserine); V. not noted. Eserine ordered.

5th.—T. n., or − ; iris seems to touch cornea; p. 1·5 mm. from eserine used to-day.

June 21st.—R. has gone on well till to-day, but some days ago had "pressure" at top of head with nausea.

At noon to-day after dinner, sudden dimness. Seen at 5 p.m., T. + 3, nearly; p. 4 mm.; no a. c.; no congestion, reads 1 J. slowly; F. n. Blister and continue eserine. At 10 p.m. severe pain and redness came on and lasted till she came next day.

22nd, afternoon.—Has retched and vomited since morning. Pain down r. side of nose, along brow and back to occiput, and at "one spot" in outer part of the eyeball. T. + 3; cornea bright; little or no a. c.; p. 3·5 mm.; can barely see candle flame at 2-3′ and cannot count fingers.

Iridectomy upwards this afternoon.

July 12th.—R. Reads 8 J. and with − 9 D. V. = $\frac{6}{36}$; F. n.; opacities in vitreous and pigment ensheathing a retinal vein towards temporal side of equator; the pigment rests on a small spot of atrophic choroid.

October 6th.—R. Reads 6 J.; with − 9 D. V. = $\frac{6}{24}$, partly; T. n.; says V. is best in the early part of the day.

L. T. n.

November 3rd, 1882.—R. reads 4 J.; T. n., or ? +. A single round opacity in the vitreous; O. D. rather pale and there are white lines along the vessels; very marked pulsation in the upper chief vein; a. c. very shallow.

August, 1883.—R. reads 1 J., fairly; with − 9 D. V. = $\frac{6}{24}$.

December, 1884.—R. T. n. and rather less than in L.; a. c. extremely shallow, especially at centre, where iris seems to touch cornea, but periphery of iris is less forward; it looks as if the lens were too globular. V. − 9 $\frac{6}{36}$.

July, 1885.—L. lens getting opaque at nucleus.

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# CASES

OF

# TUBERCLE OF THE CEREBELLUM.

By J. S. BRISTOWE.

In the last volume of the 'Reports' I published a series of cases of tubercular meningitis. The present communication on tubercle of the cerebellum may be regarded as a kind of supplement to that paper. The cases are few in number, partly because I have excluded all such as were complicated by tubercular growths in other parts of the brain-substance, partly because I have not had time to collect my older experiences on the subject, and partly because I have not quoted any of the considerable number of cases which have been under my care in which I have had reason to suspect the presence of cerebellar tubercle, but which I have not had the opportunity of following to the end.

The first case is that of a bright little boy of 10, whose illness was of nine months' duration, three months of which time were passed under my immediate observation. He suffered at first from headache and sickness. After admission into the hospital the sickness ceased for a time and the most noticeable phenomena present were headache and optic neuritis. Soon his eyesight became impaired, and he was



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attacked from time to time with temporary blindness. The blindness soon became complete and permanent, and about this time the headache returned, and he often suffered (especially when the headache was upon him) from giddiness, with inability to stand. A few days before his death he had his first and only epileptic attack, in which he became livid and insensible, and his pulse sank to 30 in the minute. From this he recovered; but a few hours before death passed into a comatose state.

It is worthy of notice, that the patient's headache shifted, was generally referred to the forehead, and occasionally extended down the neck; that he never presented any motor paralysis of any kind; that (excepting when suffering from intense headache) he could always maintain his equilibrium and walk without difficulty, even after he became blind; and that he retained his intelligence, brightness, and good humour throughout his illness.

A mass of tubercle as large as a chestnut was found in the posterior part of each lateral lobe of the cerebellum; and the ventricles of the brain were distended with fluid.

The second case is that of a man 25 years of age, whose illness was also of about nine months' duration, and who was in the hospital about three months under my care. This man, like the little boy, suffered at first and for some months mainly from headache and sickness, and later also from giddiness. When he came into the hospital he was still complaining of headache and sickness, and he presented an internal squint of the right eye. But in other respects his eyes were healthy and his eyesight good. He had no other paralytic symptoms and he could walk without staggering. About six weeks before his death optic neuritis first appeared. It increased rapidly, but never caused impairment of sight. For the last week of his life he complained more than he had previously done of headache and sickness. He was discovered comatose in his bed on the morning of his death, and died in the course of a quarter of an hour. He had been quite sensible less than an hour before.

In this case it may be specially pointed out, that the headache was generally referred to the back of the head; that there was paralysis of the right external rectus, and that

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occasionally when the headache was intense the patient complained of tingling throughout the left side; that he suffered but little from giddiness while under my care, and for the most part was up during the day and able to walk about without difficulty; and that the optic neuritis was of very late development. It may be added that the temperature, which was generally below the normal, was below it at the time of death.

In the posterior part of the right lobe of the cerebellum was an embedded tubercular mass as large as a pigeon's egg. There were also the remains of tubercle in the lungs and bowels.

The third case is that of a boy of 16, who seems to have been ill for four months only, and was in the hospital for a month. He suffered at first from headache, sickness, and giddiness, and some impairment of sight.

He complained of severe pain at the top of the head and down the back of the neck, which latter was aggravated by bending the neck; he was frequently sick; he was giddy but could walk without staggering; the tongue was protruded to the right; and he had weakness of both internal recti with some uncertainty in moving the eyeballs, double optic neuritis, and much impairment of sight. There was slight evidence of nystagmus; and occasionally slight tremors of the arms attended voluntary movements. He was inclined to be drowsy, a phenomenon which increased upon him towards the end of life, at which time also he became blind, and passed his evacuations into the bed.

In this case, also, it will be noticed that there was little or no presence of staggering gait. The pain was referred to the top of the head and back of the neck. Optic neuritis and failure of sight showed themselves early. He had partial paralysis of both internal recti and of the right side of the tongue. He never had any fits, but he was inclined to be drowsy, and at length became comatose.

At the autopsy it was discovered, that there was a little basal meningitis; that there were two tubercular masses in the cerebellum, one as large as a hazel-nut in the left hemisphere, and one ovoid and about two inches in diameter in the central lobe and involving the roof of the fourth ven-

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tricle; and that the ventricles were distended with fluid. The rest of the body was not examined.

The last case was a particularly interesting one, for it was that of a boy who had for two years had symptoms pointing to tumour of the cerebellum, but who came under my care for tubercular meningitis of recent development, of which he died.

The patient was eleven years of age. Two years before death he had had two fits; from which time he had "been weak in his legs," and for the last year unable to stand. His "weakness" was described as being a tendency to stagger. He had also suffered from pain referred to the forehead and eyes. On admission his acute symptoms were of a few days' duration only; he was quite sensible, but he was unable to stand alone, in consequence of staggering like a drunken man. I need not describe the further progress of the case, which ran the ordinary course of tubercular meningitis, and proved fatal sixteen days after admission.

After death extensive tubercular meningitis was discovered; and, in addition, two masses of tubercle in the cerebellum: one the size of a hazel-nut in the right lobe, the other as large as a walnut, occupying the middle lobe and adjoining portion of the left lobe, and projecting from above into the fourth ventricle. There was much ventricular fluid. The lungs, liver, and spleen were studded with tubercles.

The most noteworthy facts in these cases are: 1st, the general prevalence of the common signs of intracranial tumours, namely, headache, sickness, and optic neuritis; 2nd, that the headache was by no means limited to the back of the head; 3rd, the almost complete absence of anything like a staggering gait, excepting in the last case, in which it had been of long duration and was typical; and 4th, the supervention also in the last case of tubercular meningitis, a complication of tubercular tumours of the brain which might be looked for, but is certainly not common. The local paralyses presented by one or two of the cases do not seem to have been significant.

Case 1. *Tubercular tumours of cerebellum, and dropsy of ventricles; headache; vomiting; giddiness; optic neuritis;*

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*blindness; absence of cerebellar gait; finally epileptiform attacks, coma, and death.*—William F—, a schoolboy, æt. 10, was admitted under my care on the 12th December, 1882.

Had been healthy up to six months before admission, when he began to suffer from headache and sickness. The headache was more or less paroxysmal, and the sickness came on two or three times a day. They had both increased of late, and latterly also his sight had failed somewhat. Never had fits.

He is a rosy-faced, plump, healthy-looking lad. He complains of pain in the frontal region, and has well-marked optic neuritis, but there are no other present signs of illness whatever. The pupils act normally; he can see, smell, taste, and hear well; and there is no paralysis of either sensory or motor nerves. He has no difficulty in walking or maintaining his equilibrium, and all the reflexes are normal. No affection of thoracic or abdominal viscera. Pulse 92, temp. 98·4°, tongue clean, appetite good, bowels confined, sleeps well.

For the following seven weeks the patient's symptoms presented no material aggravation. He had a fair appetite, and had no recurrence of sickness. His headache came on at irregular intervals, for the most part every day, lasting for several hours at a time. During the attacks he generally had marked impairment of sight, and was now and then apparently blind; he generally seemed more or less torpid, and frequently moaned. Momentary blindness would also come on occasionally even when he was free from pain. The headache was generally referred to the frontal region, but occasionally to the occiput, and on one or two occasions to the mastoid regions, which were then tender. Once or twice the pain extended down the neck. When he was free from pain he was always cheerful and lively, walked about and took an interest in all that was going on, and in fact, but for some impairment of sight and the optic neuritis, seemed quite well.

On the 6th of February it was noted that on the previous three days he had had a series of curious attacks, in which momentary shudders passed over him at intervals of a few minutes for an hour or so at a time. On this day he had

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intense headache, and was sick for the first time since admission.

From this time to the 5th of March his condition on the whole was worse than it had been, but there was no material progressive aggravation of symptoms. He had become and remained absolutely blind; he was frequently sick; he complained much of giddiness, and at such times was unable to stand; his headache was now frequent and intense, and as before variable in seat. When it was on him he sometimes seemed semi-comatose, and often cried out with pain. But his temperature never rose above the normal; his pupils were always dilated; there was never any sign of paralysis; he never passed his evacuations into the bed; and the pulse ranged from 72 to 120. And in the intervals between his attacks of pain he was still sensible and lively, enjoyed his food, and so far as his continued blindness allowed was able to get about the ward.

March 4th.—After a restless night he had a fit this morning, ushered in by a loud scream. In it his face became livid, his limbs rigid, and his head strongly retracted. The pulse at first was extremely feeble, and only 30 to the minute; later it rose to 60. The fit lasted about fifteen minutes, but was followed for some time by momentary attacks of rigidity. After the seizure he remained in much the same condition as he had been before it, until the 7th, when intense headache and constant vomiting came on, which, after about four and twenty hours, were succeeded by profound coma; in which condition he died in the course of a few hours on the following day.

It may be added that the pain was temporarily relieved on two or three occasions by the application of leeches or blisters behind the ears or to the temples.

*Post-mortem examination.*—Membranes of brain healthy. Convolutions of cerebrum flattened. Surface of brain dry, and generally pale, but larger veins very full of blood. The lamina cinerea was tense, convex, and transparent; and the infundibulum, which was also transparent, formed a tense conical dome-like projection, with a ring-like thickening at its base in front, around which the optic tracts and commissure were stretched. These appearances were due to great dis-

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tension of the third ventricle with fluid. Both lateral lobes of the cerebellum were adherent behind to the dura mater; and embedded in the corresponding part of each lobe, at about an inch and a quarter from the median line, was an irregularly rounded tubercular mass about as large as a chestnut. The left was rather the larger of the two. The general substance of the brain was quite healthy, but the lateral and third ventricles were very largely distended with limpid colourless fluid. There were no miliary tubercles discovered in the membranes of the brain. The other parts of the body were not examined.

CASE 2. *Tubercular tumour of cerebellum; headache; vomiting; giddiness; paralysis of right external rectus; optic neuritis; absence of cerebellar gait; death from coma.*— B. W—, a stationer, æt. 25, was admitted on the 7th August, 1880. He was single, had not been a drinker, had never had rheumatism or syphilis, and in fact had had fairly good health until about last Whitsuntide.

At that time he began to suffer from paroxysmal occipital headache and vomiting. The vomiting was always preceded by the headache, and relieved it. Thus he continued without much change until the 1st of August, when he began to see double, especially distant objects. This has continued. He has also suffered much from giddiness, especially when standing up. His gait, however, does not seem to have been markedly unsteady. There has been no loss of power in limbs, or anæsthesia, but he has sometimes had slight tingling on left side when the paroxysms of pain have been most severe.

On admission he looked pale and ill, but his body was fairly well nourished. He complained of pain at the back of the head, which had been constant during the last two months, but liable to frequent exacerbations, and of sickness, generally coming on several times a day, but chiefly in the morning before breakfast. He had double vision, associated with an internal squint of the right eye. No other paralysis or evidence of nervous disease.

Tongue clean, appetite fair, bowels confined, abdomen normal, no cough, and no distinct physical evidences of pul-

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monary disease; heart-sounds healthy; urine free from albumen, containing phosphates, sp. gr. 1024.

On the 16th his eyes were examined by Mr. Nettleship, who confirmed the fact that there was paresis of the right external rectus, and reported that there were no signs of optic neuritis. The pupils were equal, and acted to light.

There was no very marked change in his symptoms down to the 12th or 13th of November. His headache was pretty constant, and at times intense. It was referred generally to the back of the head, but occasionally to the top. The vomiting varied; it occasionally left him for days together, but generally occurred once or twice daily, and had no obvious relation to the taking of food. Indeed, he generally had a fair appetite. He occasionally complained of tingling in the feet and on the left side when the pain was very intense. The squint continued, and perhaps became more marked, but there was no affection of any of the other ocular muscles; the sight continued fair, and the pupils acted perfectly. But on the 9th October double optic neuritis was for the first time observed, and on the 25th Mr. Nettleship noted that there were hæmorrhages in both retinæ. No paralytic phenomena had come on, no fits, no rigidity or tremors, no marked mental phenomena; nor did he at any time complain specially of giddiness. He had generally slept well. Further, he had never suffered from cough or diarrhœa. He had not been in the habit of keeping his bed.

From the 13th to the 19th November he had much more constant and severe vomiting than he had previously experienced. This ceased, however, on the 19th, on the evening of which day his headache became unusually intense, and he complained much of giddiness; and during the night he could not sleep, but was sitting up in bed, and frequently crying out with pain. In the morning the pain was still present, and instead of getting up as usual at 8 a.m. he remained in bed. About 9 o'clock he asked the nurse to bring him some water to wash himself, saying that he meant to get up very soon. About a quarter before 10 the nurse noticed that his face was livid, and that he was insensible. There were no convulsions. A few minutes later the house physician arrived

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and found him comatose and motionless, with a scarcely perceptible pulse, and breathing at long intervals. The pulse soon became imperceptible, and he died in less than a quarter of an hour.

His temperature throughout his illness had varied from 96·2° to 98·6°. At the moment of death it was 96° in the axilla, and twenty minutes later 97·5° in the rectum.

*Autopsy.*—The body was in fair condition. The brain generally was fairly healthy, but projecting backwards and outwards from the hinder and outer part of the right lobe of the cerebellum was a hard rounded tumour. This, which was about the size and the shape of a pigeon's egg, was embedded in the substance of the cerebellum. It was opaque, yellow, firm, well-defined, but without any distinct capsule. It was evidently tubercular. No other tubercles were found. There was marked excess of subarachnoid fluid.

Both lungs presented, especially in their apices, much evidence of old tubercular disease, but there were no cavities, and no tubercles of recent formation. Pleuræ adherent above. There were several, apparently tubercular, ulcers in the lower part of the small intestine. They were mostly in process of cicatrization. Nothing else noteworthy was discovered.

Case 3. *Tubercular tumour of cerebellum; effusion into the ventricles; headache; sickness; giddiness; optic neuritis; impairment of sight; paralysis of both internal recti and of right side of tongue; no fits; absence of staggering; coma; death.*—Danied L—, a labourer, æt. 16, was admitted under my care on the 29th November, 1882.

The history obtained concerning his illness was somewhat vague and contradictory. It seemed, however, that he had been ailing for about two months with headache, giddiness, sickness, and impairment of sight. He had occasionally seen double; his bowels had been constipated.

The patient is a spare, heavy-looking boy. He complains of pain at the top of the head and in the back of the neck, of constant sickness, and of failure of sight. He suffers also from giddiness, but he can walk without staggering. There is no paralysis of the limbs or impairment of sensation,

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neither is there any paralysis of the facial muscles; but he protrudes his tongue to the right, and there is apparently some weakness in both internal recti and a little uncertainty in the movements of the eyes. Moreover, when he attempts to turn his eyes far in any direction there is a slow oscillating movement, resembling, but much slower than, true nystagmus. The pupils are equal, dilated, and act freely to light. His eyesight is very defective and he cannot distinguish even large letters. No affection of the other organs of special sense. He holds his head rigidly, and he complains of some pain when he endeavours to bend his head forwards. Tendon reflexes normal. Slight tache cérébrale. Abdomen retracted; no signs of disease in chest or abdomen; urine normal; pulse 78.

The patient's symptoms remained much as they are above described for two or three weeks. He continued to complain more or less of pain at the back of the head; he was often sick; the paralysis of the right side of the tongue and of both internal recti continued; but no other paralysis supervened. His pupils remained dilated and equal and active to light; and the sight was always extremely defective. He had no distinct colour-blindness, but he had a difficulty in recognising the forms of even large objects, and occasionally for a time he said that he was, and he appeared to be, quite blind. Ophthalmoscopic examination of the eyes showed well-marked double optic neuritis. His temperature remained normal, and his pulse, which varied between 60 and 96, was generally about 60, and somewhat irregular. He was often drowsy and inclined to be fretful, and occasionally was irritable and called out at night. On one or two occasions muscular tremors, attending voluntary movements, were observed.

Towards the end of December, his vomiting became more frequent, and he grew rapidly weaker; he got very drowsy and difficult to rouse, and at times noisy; he passed his evacuations into the bed; his blindness became, so far as we could make out, absolute, and his pupils insensible to light. The pulse got quicker, though never very quick, and his temperature rose occasionally to 100° and upwards. He died comatose on the 1st January.

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*Autopsy.*—Calvaria and dura mater healthy. There was some flattening of the convolutions, and a trace of basal meningitis. The lateral ventricles were largely distended with fluid, and the infundibulum formed a tense cone at the base. The substance of the cerebrum was healthy.

At the posterior margin of the left hemisphere of the cerebellum, partly embedded in its substance, was a tumour the size of a hazel-nut. This was soft, grey, and contained some effused blood. In the central lobe of the cerebellum, and extending thence into the lateral lobes, was an ovoid tumour, of the same kind as the last, about two inches in diameter. This involved the roof of the fourth ventricle, but did not reach the upper surface of the cerebellum. Corpora quadrigemina, optic thalami, corpora striata, and the nerves at the base were all healthy. The tumours were, I believe, tubercular, but, unfortunately, no record of their nature has been preserved. The rest of the body was not examined.

Case 4. *Tubercle of cerebellum, followed by tubercular meningitis; pain in head, with loss of power of walking of two years' duration, followed by symptoms of tubercular meningitis, and death.*—Henry W—, æt. 11, was admitted under my care on the 6th June, 1873. Two years ago he had two fits, in which he remained insensible for about twenty minutes. He has been "weak on his legs" ever since, and for the last twelve months quite unable to stand. This inability, however, has depended, not so much on weakness of the legs, as on a tendency to stagger. He has had more or less constant pain in the forehead and eyes the whole of the time. During the last few days he has manifestly been getting worse, and he has rambled a little at night.

On admission the boy seemed to be quite sensible, but he complained of severe frontal headache and of tenderness in the cervical spine. He had no power of standing alone, but tumbled about as if he was very drunk. There was no paralysis; his pupils were dilated and equal; his sight and hearing good. Tongue coated; no sickness; evacuations passed naturally. Chest resonant, breath-sounds healthy. Cardiac sounds and action normal. Pulse 124, temperature 102·3°.

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9th.—Has rapidly been getting worse. Has been sleeping off and on by snatches, but at times has been very talkative, and has continued talking for hours together, harping for the most part on certain words and phrases, which he utters loudly at short intervals. He was talking at the time of my visit: "Will it be like that, sir?" "Thank you for that;" "Oh would it, please?" "Oh yes, please;" "Oh yes, sir, will you?" "My head, it will like that;" "My head like that;" "My head was like that, please;" "My head will like that, please;" "Oh yes, please, would you?" and again, "My pretty eye;" "My pretty head;" "My poor head," &c. He seemed sensible when roused and answered correctly, but ran off into disjointed sentences. He complained of headache and pain in the neck. The left upper eyelid drooped a little, but he could elevate it with an effort; there was no paralysis whatever of the ocular muscles. The left pupil was more contracted than the right. Vision perfect, but some photophobia. No paralysis of limbs; no sickness; no convulsions; evacuations passed unconsciously. Pulse very variable; it was 84 in the minute when I first came to his bedside; but it rose in a few minutes to 120. The temperature has varied since admission from 99·5° to 102°.

11th.—Has been alternately drowsy and noisy, sometimes shrieking out; is now very restless, constantly rolling his head and tossing his arms about. Says he has no pain. He is certainly less sensible and articulate than he was. The eyes seem unduly prominent, and the right pupil is dilated and sluggish; double optic neuritis. No sickness, no paralysis, no convulsions. Evacuations still passed naturally. Pulse 80, temperature varying from 99° to 100·7°

On the 14th it was noted that his general condition had undergone little change. His right pupil was still sluggish, and he had now a slight squint. His eyes were prominent, his eyelids congested, and his frontal veins extremely distinct. Constantly moaning and calling out, and rambling in speech. Temperature has varied from 98·6° to 100·2°; pulse from 88 to 100.

On the 15th he first passed his evacuations into the bed. On the 16th it was determined that there was manifest loss of power in the left external rectus and that his eyes moved

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at times independently of one another. His pulse had risen to 132. On the 17th he was becoming more drowsy, though still restless and noisy at night, and still understanding if addressed loudly. His pupils were dilated and inactive to light, but it was thought that he could still see. He was constantly moving his hands about, and seemingly picking at, or playing with, imaginary objects. Pulse 144.

On the 18th it was observed that his left side was weak; at any rate he moved the left arm and leg much less than their fellows. The pulse was still 144. During the last four days his temperature has usually been between 99° and 100°, but once or twice has reached 101°.

21st.—Much worse. Has continued restless and noisy at night, but now seems quite unconscious to external impressions. He lies on his face with his head inclined to the left, and constantly moving his right hand as if fingering something. The left arm is kept quiet, but he can move it. Right pupil contracted, left dilated but immoveable; paralysis of left external rectus. Congestion of conjunctivæ, mainly of right, optic neuritis also most marked on this side. Apparently quite blind. Tongue coated; skin dry; pulse 192. The temperature, which was 101° in the morning, rose to 103·7° in the evening.

During the 22nd he was gradually sinking. His pulse was 180; his temperature 101·5° in the morning, and 104·5° in the evening. At 3 a.m. on the 23rd he was attacked with hiccough, which was shortly afterwards followed by vomiting, and he died in the course of two or three hours.

It is noteworthy that the patient never had any sickness until he was moribund, and that he never had any convulsions.

*Autopsy.*—On opening head, dura mater very tense, and convolutions flattened. Meningitis at base of brain; pons Varolii, optic commissure, and neighbouring parts covered with tough yellow lymph and miliary tubercles. Pia mater of both Sylvian fissures covered with tubercles, as also the velum interpositum and the surface of the middle lobe of the cerebellum. At posterior border of right cerebellar lobe, and adherent to the dura mater, was a mass of yellow tubercle about as large as a hazel-nut. A much larger mass, about

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as large as a walnut, but of irregular shape, occupied the middle lobe and commissural portion, extending, however, further to the left than the right. It projected from the roof of the fourth ventricle, and by pressing on its floor almost obliterated the cavity. These masses were generally firm, but soft and friable in the centre, and surrounded by a kind of vascular capsule. The lateral ventricles were much distended with fluid. Fornix and septum lucidum softened. Lungs studded with groups of miliary tubercles. Bronchial glands enlarged, caseous, putty-like, and calcareous. Small yellow tubercles were found in the liver and spleen. All other organs healthy.

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# A CASE

OF

# SPASMODIC WRYNECK

TREATED BY

# EXCISION OF A PORTION OF THE SPINAL ACCESSORY NERVE.

By CHARLES A. BALLANCE.

*History.*—The patient, Mrs. S—, æt. 48, had been married for eleven years and a half, and had never been pregnant. She limped slightly, due to the effects of infantile paralysis affecting the right leg, but she had never had any other serious illness. Eighteen months after marriage she began to suffer from spasms in the neck which caused the face to turn towards the left shoulder. During the last ten years her husband had been subjected to much and increasing pecuniary anxiety. The spasm in the neck had been most severe for ten months previous to my seeing her, interfering seriously with the taking of sufficient nourishment, and almost entirely preventing sleep. During this time she had not been out of doors, not liking to be seen by strangers, though previously accustomed to take outdoor exercise in a bath chair, specially made so as to give support to the head; and, moreover, her strength had so failed that it was an effort, which she dreaded, even to cross the room. The increasing bodily weakness during the

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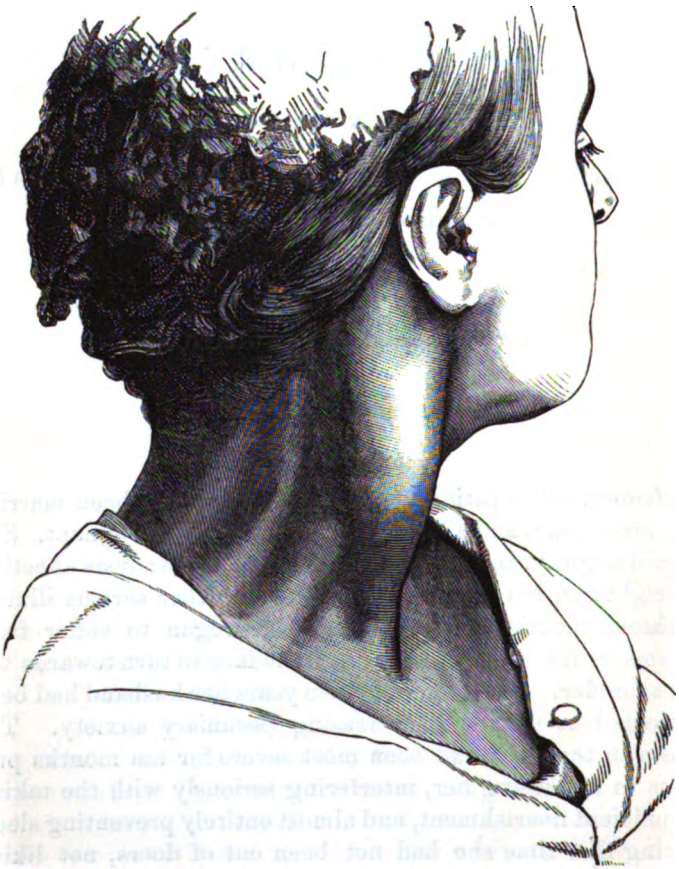
last two or three months was the cause of much anxiety and the least alteration in her environment was certain to accentuate the spasm and increase the distress. All palliative measures, drugs, electricity, massage, had been tried without avail. She had been constantly under medical care during the last twelve years.

Fig. 1.



Side view of neck before operation. (From a photograph.)

When first seen by me on January 26th she was sitting in a chair with a back so made as to fix the head. Her expression was one of suffering and weariness. The head

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was turned sharply to the left, the chin being slightly raised as well as carried towards the left shoulder. The occiput was carried in a corresponding degree towards the right shoulder and a little depressed. The patient complained of great pain in the back of the head, the right side of the neck, and running down the middle of the front of the chest. The

FIG. 2.

View from the front before operation. (From a photograph.)

right sterno-mastoid was seen and felt to be strongly contracted, causing a considerable prominence upon the side of the neck. The clavicular and sternal portions were very



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distinctly mapped out, the latter being very tense, and feeling like a round, hard cord. The position of the head and the pain in the region of the sternum were thus easily accounted for. The upper portion of the right trapezius was also extremely hard and contracted. A depression existed over the region of the posterior cervical triangle, and another small valley was visible between the sternal and clavicular origins of the sterno-mastoid. The head when supported by the hands could be brought towards the median line. This was evidently a great exertion to the patient and caused violent lateral to-and-fro movements of the head, which ceased when the chin had regained its faulty position over the left shoulder. The head could not be turned towards the right unless the hands were brought into use. The patient told me that she had not been able to get her head straight for ten years, and that she scarcely remembered being able to look over her right shoulder. The muscular spasm was constant except during sleep, and was liable to frequent exacerbations. Very little sleep was obtained, the husband informing me that his wife was tossing about all night in the vain endeavour to avoid spasm, and obtain for the head a position of rest. The muscles which were affected appeared to be only those supplied by the external branch of the right spinal accessory nerve. All the rest of the neck on palpation appeared to be quite soft, but when the spasm was exaggerated by, *e.g.* a sudden noise, some twitches of the muscles of the face and eyes were noticed. Menstruation ceased shortly after the onset of the disease. The position of greatest comfort was when the patient was completely recumbent, with the head supported by a small pillow. There was no heart or lung disease. The urine was normal. Anorexia and occasional constipation were mentioned. Sir William Mac Cormac saw the case with me, and confirmed my determination to excise a portion of the nerve supplying the two spasmodically contracted muscles.

January 31st.—Under ether an incision three inches long was made along the anterior border of the sterno-mastoid, commencing at the apex of the mastoid process. This border of the muscle was lifted and pulled backwards when the nerve was felt, and was subsequently seen passing downwards and

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backwards. A portion of it one inch in length was excised and the proximal end was then subjected to a considerable stretching force. The wound was dressed antiseptically. The muscular spasm of course was completely controlled by the anæsthetic.

February 1st.—The spasm on the right side of the neck has disappeared. The sternal origin of the right sterno-mastoid can be easily felt, and is much more prominent than the corresponding portion of the left sterno-mastoid, possibly owing to the shortening of the fibrous element in the muscle as a result of the long-continued spasm. The patient expressed herself as being quite comfortable and much relieved. The upper part of the left trapezius seems a little contracted and hard.

8th.—The wound has closed without suppuration. There is no pain in the back of the head, in the neck, or along the sternum. As the patient sits up in bed without any support to the head there is a tendency for it to rotate towards the left. The head, however, to the astonishment of the patient, can be easily maintained by voluntary effort in the median line without the use of the hands. At the same time there are some slight lateral tremors, the head moving occasionally and almost imperceptibly from side to side, and then again assuming the position of rest in the median line. She eats heartily, sleeps well, feels stronger, and says she has not been so well for twelve years. The left trapezius seems a little hard and contracted, but it is difficult to be quite sure because of the perfect flaccidity of the opposite side. Gentle massage and continuous current ordered to the left side of the neck.

12th.—The patient is improving, and there is no important change to report. She can turn her head and look over the right shoulder, an experience which is quite novel to her. The apparent contraction of the left trapezius is no longer to be felt.

April 9th.—The general health is much better. In appearance she is much changed, has gained flesh and looks very well. The left trapezius is normal, and no difference is now discernible between the sternal origins of the two sterno-mastoid muscles. There is sometimes a tendency for

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the head to rotate to the left, but it is easily controlled by a mental effort.

May 26th.—Mrs. S— is much better and much stouter. The face is happy and tranquil. There is neither headache nor pain, and sleep and appetite are good. The control of the movements of the head is perfect so long as she is not excited, and so long as the head is not raised so that the eyes are directed much above the horizontal plane in which they lie. The patient can easily turn the head to the right without any spasm occurring, provided these points are attended to. If the face is directed upwards there is at once some tendency for it to be rotated to the left, but this tendency can by the will be prevented from causing any movement of the head. The right sterno-mastoid and trapezius are atrophied. The right scapula is higher than the left, probably owing to the action of the rhomboidei, serratus magnus, &c. The vertebral border projects slightly and the patient complains of a "bone in the back, which comes out and sometimes aches." On inspection no difference can be detected in the outline of the two sides of the neck. The lower angle of the right scapula is a little further away from the median line than the lower angle of the left. The scapula is therefore slightly rotated and raised. This position becomes much more evident on raising the arms to or above the horizontal line. There is no impairment of the movements or interference with the strength of the arm and no curvature of the spine. There is no anæsthesia, and the patient expresses herself as daily getting better and stronger.

*Remarks.*—The operation of excision of a portion of the spinal accessory nerve is not difficult. The external division of the nerve passes downwards and backwards, either internal or external to the internal jugular vein, and enters the deep surface of the sterno-mastoid near the hinder border, exactly two inches below the apex of the mastoid process. Occasionally the main trunk of the nerve lies entirely beneath the sterno-mastoid, and then the twigs, one or more supplied to the muscle, alone pierce it. The first recorded case in which the spinal accessory was divided is narrated in the 'British and Foreign Med.-Chir. Review' for July, 1866. The operator was the late Mr. Campbell de Morgan, and he made his

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incision along the posterior border of the sterno-mastoid, and then, having found the trapezial branch of the nerve, he dissected forwards through the muscular fibres until the main trunk was reached. Prof. Annandale ('Lancet,' April, 1879) made his incision along the anterior border of the muscle, commencing at the mastoid process and extending it downwards for three inches. After practising the operation many times on the cadaver I think it is best to commence the incision, not at the mastoid process, but on a level with the transverse process of the atlas, and to carry it down the anterior border of the muscle for two inches. This border should then be raised and the muscle pulled backwards. The nerve will thus be put upon the stretch, and the finger will at once detect it coming from under cover of the posterior belly of the digastric, and passing downwards and backwards to the under surface of the sterno-mastoid.

Very few cases have been reported in which spasmodic wryneck has been treated by operation. Mr. Campbell de Morgan's first case, already alluded to, was quite successful. His second case ('Lancet,' Aug. 3rd, 1867) was complicated by spasmodic movements of the right arm and hand, and yet the relief gained by the operation was very considerable. It has one point of resemblance to my case, viz. the great pain complained of in the region of the masto-occipital attachments of the affected muscles. Prof. Annandale's case was also successful. Mr. Jacobson, of Guy's Hospital, writes to me that he excised a portion of the left spinal accessory in a middle-aged woman some six or seven years ago. The operation only gave temporary relief, as other muscles became affected. Mr. Jacobson adopted the incision at the posterior border of the muscle, following the nerve forwards and upwards through the muscular fibres.

At the meeting of the Manchester Medical Society last April Mr. Hardie related one case and Mr. Southam two cases of spasmodic torticollis which had been successfully treated by section of the spinal accessory. Mr. Rivington and Prof. Stromeyer each mention a case in which the operation was performed, but do not give any details. Prof. Thiersh and Dr. Kölliker, of Leipzig, have informed me that though spasmodic torticollis is not quite unknown in Germany, yet

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they were not aware of any case in which section of the nerve supplying the affected muscles was attempted.

Prof. Thiersh, however, told me that many years ago he operated with success upon an Oriental, dividing the spinal accessory and several cervical nerves on both sides of the neck for the relief of spasmodic contractions, which produced nodding movements of the head or "salaam spasm."

The cause of spasmodic wryneck is doubtless some nerve irritation, either reflex or central. In this case the latter is the most probable, the disease dating from and growing worse during a succession of mental troubles and pecuniary anxieties.

It is interesting to note the signs of old infantile paralysis, as evidenced by the imperfect development of the right lower extremity, and to remember that some of the motor cells of the right anterior cornu in the lower part of the spinal cord must have been destroyed in early life. In spasmodic wryneck the cells of the anterior cornua in the upper part of the spinal cord are irritated. In this case the muscles supplied by the right spinal accessory were involved, hence the motor cells of the right anterior cornu in the cervical region were affected. The spinal accessory arises from the whole length of the cervical portion of the spinal cord, *i. e.* as low down as the origin of the eighth cervical nerve, and from the medulla below the vagus. The cervical roots arise from the intermedio-lateral tract and from the adjacent cells of the anterior cornu; the medullary roots from the grey matter, which is practically continuous with the motor grey matter of the cord.

It is not suggested that there is any connection between the inflammatory disease of childhood and the irritative affection of corresponding cells which commenced thirty years later; but still it is worth noting that the strain of life has fallen most acutely, though at long intervals of time, on the motor cells of the right anterior cornu of the spinal cord.

Previous to the operation it appeared as if the right sterno-mastoid and trapezius were the muscles which alone were liable to contraction. The scaleni and all other muscles within reach were soft and certainly not contracted. The engravings illustrate well the extraordinary prominence which

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the hard, stony spasm of the former muscles produced on the side of the neck. Since the operation it has been certain that some of the muscles supplied by the upper spinal nerves are liable to spasm. It would be strange if it were not so, considering the intimate connections between the second, third, and fourth spinal nerves and the spinal accessory in the sterno-mastoid, trapezius, and posterior triangle; together with the fact that some of the fibres of the spinal accessory are connected with the same cells, or with cells in the immediate neighbourhood of those from which arise the motor rootlets of the cervical spinal nerves.

The small muscles, which rotate the head so that the face looks over the left shoulder, are the left inferior oblique and the left rectus capitis posticus major which receive their nerve-supply from the posterior primary division of the left suboccipital nerve. The motor impulse which causes contraction of the muscles which extend the head, *e.g.* on the left side the rectus capitis posticus minor, the superior oblique and the complexus, traverses this same nerve which conveys the orders to the rotatory muscles. Other larger muscles, such as the splenius, trachelo-mastoid, and complexus, which tend either to rotate or extend the head, are supplied by the succeeding posterior primary divisions. The deep connection, however, of the spinal accessory with the first cervical nerve is probably more intimate than its connections with the other spinal nerves.

The patient now seems unable to extend her head beyond a certain limited amount without causing at the same time a slight tendency to rotatory spasm in muscles, which are evidently not powerful, and which are certainly too deep for palpation. I think it probable, therefore, that the deep origin of the posterior primary division of the left suboccipital nerve is exposed to the same irritation as the deep origin of the right spinal accessory nerve. The deep origin of those fibres of the posterior primary division of the right suboccipital nerve distributed to muscles which extend the head may likewise be subject to the same influence, as may be also the trapezial fibres of the left spinal accessory, as evidenced by the transient contraction of the left trapezius, noted the day after the operation. The spinal accessory is within easy reach of the surgeon. It is a question whether, in intractable cases

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of spasmodic wryneck in which the general health is much interfered with, an attempt should not be made to reach the suboccipital nerve. Judging of the ease with which it can be found with some practice in the dissecting or post-mortem room (except in a fat subject), the operation would not present insuperable difficulties. At the same time the connections of the posterior primary divisions of the upper cervical nerves beneath the complexus would come under control. Of course the disadvantage attending all such operations is the risk of radiation of the irritative process to other nerve centres, and the consequent involvement of other groups of muscles. The successful cases already recorded afford much encouragement, and in the case above narrated the localisation of the lesion, or, rather, the demonstration of the muscles involved and their nerve-supply, attempted in these remarks, permits the hope to be expressed that operative surgery may do more in the future than in the past for this rare and most distressing malady.

*Note.*—The microscopical examination of the excised portion of nerve did not reveal anything abnormal.

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# LATE RICKETS.

By H. H. CLUTTON.

Rickets has always been believed to be a disease of infancy and has generally been considered as seldom arising after the first year of infantile life. Since the discussion on rickets at the Pathological Society, November, 1880, one's attention has been directed to the possibility of a late development of this disease. A boy about ten years of age was shown by Dr. Drewitt during this discussion, and the report of this case proved at any rate that the bony deformities which are seen in rickets may present themselves at a much later period than is ordinarily believed, or that a disease analogous to this condition may take its place at a more advanced age, producing results not unlike those of infantile rickets.

This boy died at his own home about two years after he was shown at the Pathological Society. A post-mortem examination was made by Drs. Barlow and Abercrombie and many of the bones removed. These are now preserved in the museum at the Children's Hospital, Great Ormond Street, and present all the ordinary features of the infantile disease. One is forced, therefore, to believe that rickets may arise at this period of life.

The curvature of some of the bones which is commonly seen between six and nine years of age with enlarged epiphyses are not comparable with the cases which are now under discussion, for these children have generally a history of

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well-marked rickets in infancy with a certain amount of bony deformity. This has, in most cases which have come under observation, gradually and slowly increased in severity from infancy, till treatment has been imperatively called for. They are thus instances in which the disease has continued unchecked from infancy to childhood.

Again, it is not unusual to see the bones bend at or about puberty, and even still later, but without any very evident enlargement of the epiphyses. Most of these cases are, I imagine, due to a want of proper consolidation of the bones in proportion to the increasing weight of the body. They may have had rickets in infancy, but they show no sign of any abnormal changes going on at the epiphysial lines at the age when the bones begin to bend.

Mr. Clement Lucas in the 'Lancet' June 9th, 1883, appears, on the other hand, to view most of these cases of bent bones about the age of puberty as cases of late rickets. That the want of perfect ossification is in many cases due to sexual irregularities to which he alludes is, I think, quite possible, but I cannot find that many of these cases have larger epiphyses than other children of the same age.

The enlargement of the epiphyses is considered one of the most essential phenomena of infantile rickets, and before we can class these cases of bony deformities which occur about the age of puberty under the term of rickets I think we must show that they have the same condition at the epiphysial lines which occur in the infantile disorder. Mr. Lucas states that the enlargement is never so great as in early life, but Dr. Drewitt's case and my own contradict this statement, and personally I should hesitate to pronounce any case as one of rickets which did not present the same degree of deformity at the epiphysial lines that is seen in any ordinary case of infantile rickets.

Such a case as that recorded by Dr. Drewitt must be very rare, and still more so must be the opportunity of making a post-mortem examination of the bones at this age with the disease in active progress. The question naturally arose, Could this really be a case of rickets? The post mortem appearance of the bones, after careful preparation and examination, has lately proved beyond a doubt that

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the abnormal condition in the growing ends of the long bones was of the same character; there were also similar changes beneath the periosteum. I think we must then conclude that Dr. Drewitt's case was one of rickets which had apparently started into existence between the ages of nine and ten, and had reached a very high degree of development at twelve years of age. There is also evidence to prove that there was no deformity of any of the bones during infancy.

The patient of whom I am about to give a description has the same swellings at the epiphysial lines and the same curvatures of some of the long bones that are seen in infantile rickets. She is twelve years of age, with symptoms of not more than twelve to eighteen months' duration from the commencement of any osseous deformity.

The case is very similar in all its features to Dr. Drewitt's case with the exception that the deformities are not by any means so severe. The epiphysial swellings are, I think, as marked, but the curvatures of the long bones affect only those of the lower extremities and the clavicles. The deformities, it is true, may increase in their severity, and eventually produce the same helpless condition that was seen in Dr. Drewitt's case. But the degree of deformity does not affect the question if we consider that in other respects it is the same disease. And I do not see how one is to escape this conclusion, for such epiphysial swellings would not be seen at this age without some definite structural alteration of the bone at its growing part. In almost all respects they correspond to the condition seen in infantile rickets, and in a similar case, namely, Dr. Drewitt's, the post-mortem examination confirmed the impression previously formed. The committee which was appointed by the Pathological Society to examine Dr. Drewitt's case reported, May 11th, 1881: "We have to-day examined the boy H. L—, aged 11. We do not think the case one of mollities ossium. In almost every respect it appears to us to be identical with rickets, but we should hesitate to pronounce positively with regard to it, without having had an opportunity of examining the epiphysial ends of the bones histologically." This opportunity came some time later, and proved without a doubt that the case was really one of rickets. The only symptom

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in Dr. Drewitt's case which at all resembled osteomalacia was the peculiar distortion of the bones, and even this could be as well explained on the supposition of the case being one of rickets. This distortion is to a large extent absent in my case, but the epiphysial swellings which are not seen in osteomalacia are as well marked in both Dr. Drewitt's case and my own as in any case of infantile rickets. I have brought the case forward in the hospital reports, as I think it is of great importance that we should recognise the possibility of rickets being in an active condition at this late period of childhood, for if the same changes are observed in the bones that are seen in infantile rickets we should expect the same causes or analogous ones to be here also the real origin of the disease. Much may be done in infantile rickets by attention to diet. Naturally one would like to know if the same cause and its consequent treatment have any influence in this later form of the disease. As I shall attempt to show, other causes besides those relating to diet must be carefully considered at this period of life.

Another and very interesting question must also be asked: What relation, if any, has this disease to infantile rickets? If it be the same disease, has it arisen for the first time in the life-history of this child, that is, at an age at which we have hitherto believed it to be impossible? Or having been previously present in infancy has it continued through childhood to become exaggerated as the child approaches puberty? Or possibly as a modification of this latter view, has it subsided for a time, and again developed under a fresh exciting cause, at the period of which we are now speaking? We may put out of consideration the second of these propositions in both Dr. Drewitt's case and my own, for the histories are quite clear upon this point that there were no bony deformities of any kind till the last twelve or eighteen months. It is difficult to exclude the third proposition as we did not see the patient in infancy.

It would be unsafe with our present limited knowledge to dogmatise on the strength of the histories of a few cases. But I think we may safely conclude that either of the other two propositions, the first or third, may be occasionally true, and that whether the disease has arisen at this age or

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redeveloped, the same causes would probably be at work. Although they would not necessarily be the same as in infants, yet diet would naturally be the first subject to which our attention would be directed. It is not likely to be so solely responsible for the disease as in infants, but it may well be one of the causes which combine to produce such a result. With the present rush for education, proper attention to air and exercise is very much neglected amongst the class from which our hospital patients are derived; one would expect, therefore, that this also may be a determining influence. Commencing as this form of rickets appears to do at an age approaching to puberty, one would also expect that the sexual development would not be an unimportant consideration. In this particular case which I am now recording the condition of the mammæ was quite extraordinary for so young a child, and she had already menstruated for several months. She was also, as will be presently detailed, very averse to taking any outdoor exercise and was only happy sitting indoors. So that these two latter causes may be considered as being present in this case, although not necessarily, with our present knowledge, responsible for the disease. I cannot say that diet appears to have been in any way at fault.

Mr. Clement Lucas, in the paper already alluded to, attributed the bony deformities at this and later ages in many of his cases to irregularities of moral conduct. And he believed that his suspicion was corroborated by the presence of albuminuria. Whether his cases were really what we should ordinarily call rickets does not very much matter in the consideration of this question, for if this conduct be the cause of one it may well be the cause of the other. There was, however, no albuminuria in this patient whose history I am now recording nor was there the slightest evidence of moral misconduct.

L. W—, æt. 12, female, came under my care July, 1885.

*Family history.*—Mother died when the patient was six weeks old. Father had died before her birth.

*Previous history.*—She was the youngest of three children, with an interval of two or more years between each, their

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ages being at that time respectively seventeen, fifteen, and twelve.

She was always backward as a child, and did not walk till three and a half years of age. Dentition also was late, but no deformity of any kind was noticed till eighteen months ago. When she eventually gained her feet her limbs were quite straight, but she was a delicate child and very averse to outdoor games. She could, however, run about easily and well like other children till about one year ago.

*History of present complaint.*—Eighteen months ago she was noticed to have bow legs, but the deformity was very slight, and only perceptible when undressed. Six months ago she began to waddle and walk with a very awkward gait. This has increased very much during the last few months, within which time her aunt first noticed that she was "double wristed." Her ankles have also been getting larger and a prominence has appeared in the sacral region. All these deformities her aunt is sure were not to be seen before last Christmas; of this she seems quite certain and appears to be herself a reliable and intelligent woman, belonging to a class of life superior to that which we ordinarily see in hospital practice. The child has been accustomed to have a bath once a week at home, at which operation her aunt has always been present.

*Present condition* (August, 1885).—Patient is a well-nourished, healthy-looking girl, 4 ft. 3½ in. in height, and weighing 4 st. 8½ lb. She is unnaturally developed for her age, having larger mammæ than one often finds at sixteen. On inquiry it also appears that she has menstruated for the last four months. The urine contains no albumen or sugar. She walks with great difficulty, waddling and swaying her body along like a patient with congenital dislocation of hip.

It will be seen on looking at the accompanying lithographic plate which was made from a photograph taken by Barraud, that the bowing of the lower limbs is not extreme. When she stands with her feet together the interval between the knees measures under 4 in. It appears as if the right leg was much more curved than the left, but from the oblique position of the body which she naturally assumed before the

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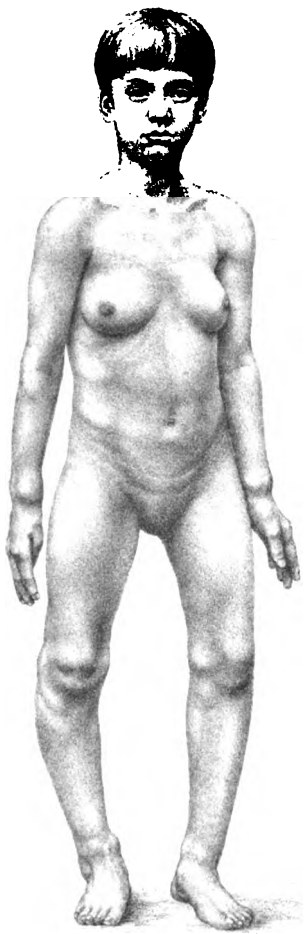

Fig. 1

Fig. 2.

A. Mintern lith.

Mintern Bros. imp.

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photographer, this is more apparent than real. Still the right is slightly more bowed than the left. The curvature is principally in the upper and lower epiphyses of the tibiæ. The latter bones are also a little bent backwards at the upper epiphysial line as will be seen by referring to the lateral view of patient in fig. 2. The femora are very slightly if at all affected. The natural curves of the clavicles are much increased, and there is on each a large deltoid tubercle. These are the only bones that show any abnormal curvatures. It should be especially noticed that there are none in the forearms like those so commonly seen in infantile rickets. This is another confirmation if any were needed to prove that the forearms bend in infantile rickets from the inability of the little patients to assume the erect position. The femora are also more likely to bend in infants from the habit they are forced to acquire of crawling about on their hands and knees. I presume the clavicles have in this patient become bent from muscular action.

The most striking peculiarity in a child of this age has yet to be described.

All the joints which are visible will be seen to be abnormally large. It is especially well marked in the knees, ankles, and wrists, but even in the shoulders it will be noticed that they are more prominent than can be accounted for by a well-developed deltoid. The elbows are, however, quite normal. In the wrists the enlargement of the lower ends of the radius and ulna can be most plainly seen, and appear, even to the unskilled eye of the aunt, as quite remarkable. At the ankles the two malleoli are visibly overhanging the joints, and of themselves form a deformity from their size. On examination the epiphyses are found to be the parts enlarged, and the same ridge which can be felt in a similar case of infantile rickets can be most clearly detected at the epiphysial line. There is no pain or tenderness at any point. Through the substance of the deltoid, the bone can be felt to be enlarged at the epiphysial line. The ribs also are as well beaded as in any case of infantile rickets. In the lower limbs the hips cannot be felt, but the articular extremities of both femora and tibiæ at the knees are abnormally large. The lower ends of the tibia and

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fibula are quite remarkable, as stated above, from their unnatural size. In fact almost all epiphyses in which ossification is not yet complete may be felt to be enlarged. The skull, on the other hand, is quite normal, which is confirmatory of the belief that rickets has in this case arisen at a late period of life, for the rapidity of growth is not by any means so great in the skull as in the long bones at this age. If the disease had started in infancy the skull would probably have continued to show the same changes as it does in most cases of infantile rickets. The spine is also quite straight and free from any detectable peculiarities with the exception of the sacrum. The latter bone is bent in its middle so as to form quite an angular projection, as may be partly seen in fig. 2. The vertebræ of which they are composed do not begin to unite to one another till the eighteenth year, so that the sitting posture, which is more generally adopted at this age than in younger children, may possibly account for this condition.

Her aunt noticed this projection two months before her niece came under observation, and is quite sure it was not perceptible before this date.

Mr. Pitts has been kind enough to show me a case of a similar kind which came under his care this summer, 1885, and has allowed me to add the report of his patient to that of my own.

Mary Ann F—, æt. 14, was the subject of extreme distortion of the legs with enlarged epiphyses, of the same nature that is seen in infantile rickets.

*Family history.*—Father alive and well, æt. 41. Mother died in her first confinement when she had only been married nine or ten months.

*Previous history.*—The patient, who was six weeks old when her mother died, was brought up by hand, being given bread and biscuit as well as milk. She began to walk within twelve months, and could run well at a year and a half.

The bones were then quite straight and strong, and the father is quite sure that there were no enlargements at the wrists and ankles such as are seen now. The child was

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always well fed and from infancy upwards has had butcher's meat with vegetables every day.

The father having had no other children and good wages has been able to devote much time and attention to his daughter, in whom he takes a very evident interest and pride.

The patient has never had scarlet fever, but has had measles twice, the last occasion being about six years ago. She has had whooping-cough also twice.

Four years ago she came to the hospital with flat feet, and was treated in the Casualty Department. At that time there was nothing whatever the matter with her legs, either in the form of curvature or enlarged epiphyses.

*History of present complaint.*—Two years ago the legs were first noticed to be slightly bent. From that time to the present the curvatures have slowly increased, but during the last six months the increase has been much more rapid.

The father cannot fix any definite time at which he first noticed the enlarged epiphyses, but at the same time he is sure that they have only recently become so apparent as they are now. He speaks very positively about the wrists being quite small when the legs were straight. I may say in passing that this is sufficient for our purpose, namely, to prove that the condition did not exist in infancy and early childhood.

*Present condition.*—The girl was very small and stunted in growth for a child of her age, her height being 3 ft. 10¼ in. and weight 4 st. 2½ lbs. When we compared the two girls standing side by side, Mr. Pitt's patient, although two years older, was much the shorter and smaller of the two. In every way this child was less developed; the bones were smaller and the mammæ were only just visible, while the areolæ and nipples were like those of a girl at a much younger age; in fact the sexual development, which was a marked feature in the general appearance of the first child aged twelve, was in the patient now under consideration, whose age was fourteen, scarcely in as forward a condition as one generally finds it at puberty. Her nutrition was also poor, her body being thin and spare, but at the same time she had the appearance of good health. She had not then



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menstruated and her urine was normal. She walked fairly well, considering her deformity, and with far greater ease than the other girl whose curvature of limbs was much less severe. The right leg was in the position of extreme genu valgum and the left in that of genu varum, producing a combination of deformities which is not at all uncommon when the lower limbs are bent in young children. There were no other curvatures in any of the long bones.

But the peculiar interest of the case for which it is introduced in this paper, centres upon the fact that most of the epiphyses were enlarged in a manner similar to those of the patient first reported. None of them were quite so large and prominent, but the same changes were evidently going on at the epiphysial line. The same ridges could be felt in both wrists and ankles that were noticed in the first patient, and which are, I think, traceable in every case of infantile rickets. These ridges appear to correspond to the epiphysial line and can be best felt at the wrists and ankles. The ribs were most distinctly beaded, but the chest did not otherwise show any deformity. The skull and spine were normal. Thus this child presented all the ordinary features of infantile rickets as it affects the bones, except that where ossification is more complete the epiphyses seemed to escape. The skull in both instances was quite unaffected and the ribs had not become bent in efforts at respiration. The latter circumstance may be due simply to the fact that no obstruction to the breathing presented itself during the period in which these osseous changes were going on.

It is just possible that we have hitherto overlooked the occurrence of these changes at the growing ends of the long bones at this age, and that it is really more frequent than is suggested in these pages. But if this be the case, it is time that attention were drawn to such a condition. For I am sure it is not generally believed that rickets or changes which exactly simulate this disease can arise or redevelope after the infantile period of life has passed. If one could only prove that these bony deformities with enlarged epiphyses do occur at this advanced age, and that they are undoubtedly cases of rickets, then the curious instances which Mr. Lucas describes would be of very great value in establishing the

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tolerable frequency of the disease. But hitherto it has not been an established doctrine that such is the case; and Mr. Lucas's reported instances being attended with very little enlargement of the epiphyses might be open to doubt whether they were really cases of rickets at all, unless one was prepared to believe that rickets is a common affection about the age of puberty. In the infantile disorder the severe cases have thrown much light upon the milder forms of the disease and enabled us to recognise the slighter grades of rickets, in a way that we should not otherwise have been able to do. In the question which we are now discussing we ought, I think, to follow the same plan, *i. e.* prove the severe cases at this advanced age to be, undoubtedly, instances of a late form of rickets. There will then be less difficulty in believing the slighter grades of enlarged epiphyses to be also cases of rickets, although they may be past the age at which we should expect to find the disorder. Dr. Drewitt's case and its subsequent post-mortem examination has done much to establish the doctrine that rickets may possibly arise at a late period of life. And I have brought my own case forward in the hope that it may confirm the impression that was formed by many at the time of the discussion at the Pathological Society that there was no inherent improbability that such a condition might at times arise at a later age than we have been hitherto led to believe.

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# FURTHER REMARKS

ON

# HAMMAM R'IRHA AS A WINTER HEALTH RESORT.

By THOMAS D. SAVILL, M.D. Lond., M.R.C.P.,
ASSISTANT PHYSICIAN TO THE WEST LONDON HOSPITAL.

In the 'St. Thomas's Hospital Reports' of last year, I endeavoured to give an impartial account of this health resort, and now that I have passed another winter there it may perhaps be worth while to record my additional observations. Those who read the paper referred to will remember that it was described as an inland bath station of Algeria, chiefly adapted to the rheumatic invalid in the winter and early spring months, when other "rheumatic" baths are closed or out of season; and it may be said at the outset that subsequent study of the climate, and the cases treated there, tend largely to confirm this statement.

Daily observations were taken on the following points. The height of the barometer, corrected to sea level, which as foreign to our present purpose, will not be published. The maximum and minimum temperatures in the shade were read every morning in a fairly exposed position close to the hotel, six feet above the ground, and the mean temperature in each twenty-four hours was calculated therefrom. The character of each day, whether cloudy, rainy, showery, or

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fine, and the amount of rainfall in inches, were also noted, and the prevailing direction and force of the wind. These, with a column of "remarks," completed the monthly table; and at the end of the month, the totals, means, highest and lowest of each series of observations, were placed at the bottom of the column.

It would take too much space, besides being wearisome, to reproduce each of these complete monthly tables, but they will be preserved for the reference of anyone interested in the matter, and I shall content myself by giving here the conclusions only.

Firstly, with regard to the temperatures. The highest temperature recorded during the winter from December 14th to April 24th was 79° F., and the lowest was 33° F., so that at the observatory the thermometer never fell within one degree of freezing point, though it fell as low as this on two nights in December, four in January, and one in March.

The mean temperature for the month of December was 46° F.—as compared with 48·7° in the same month of the preceding year; that for the month of January, 43°—as compared with 48·9° in the preceding year; for the month of February, 56°—as compared with 54·1°; for March, 48·5° —as compared with 51·7°; and for part of April, 52°—being the same as in the preceding year. *The mean temperature for the whole of the period named was* 49·1° F., or 3° lower than the winter 1883-4.

In arriving at these figures, the mean was first struck between the maximum in the day and the minimum at night, and from these means of temperature in twenty-four hours the average of the month was calculated, and from these again the average of the season. So it should be borne in mind that the result is considerably lower than the average of temperatures would be if taken in the daytime alone; for the minimum at night is necessarily lower than the minimum of day, and consequently the former is lower than the average temperature to which the invalid, who is only out in the daytime, would really be exposed.

The proportion of fine days was rather larger than during the preceding winter, being 81 out of a total of 132 observations, or nearly two thirds. There were twenty-five fine days

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## *Weather at Hammam R'Irha from December 14th, 1884, to April 24th, 1885.*

### Table I.

| | Maximum. | Minimum. | Mean. | Number of fine days. | Cloudy days. | Showery days. | Rainy days. | Amount of rain. |
|---|---|---|---|---|---|---|---|---|
| December 14th to 31st (18 days) | 58° | 33° (2 nights) | 46° | 10 | 3 | 3 | 2 | $4\frac{9}{5}$ inches. ($2\frac{1}{2}$ inches fell in 48 hours.) Snow fell for half a day, but did not lay. |
| January (31 days) | 63° | 33° (4 nights) | 43° | 13 | 6 | 7 | 5 | $4\frac{9}{5}$ inches. ($\frac{3}{4}$ inch fell in 24 hours on two occasions.) Snow fell all one day, and lay part of the next on the hills around. |
| February (28 days) | 78° | 38° | 56° | 25 (23 consecutive) | 0 | 3 | 0 | $\frac{5}{16}$ inch. ($\frac{3}{16}$ inch fell in one night.) In February and March there were 25 consecutive days without any rain. |
| March (31 days) | 79° | 33° (1 night) | 48·5° | 18 | 5 | 4 | 4 | $2\frac{9}{16}$ inches. |
| April 1st to 24th (24 days) | 75° | 38° | 52° | 15 | 0 | 3 | 6 | $8\frac{1}{2}$ inches. ($6\frac{1}{2}$ inches fell in 48 hours.) |
| (Total—132 days). | | | | | | | | |

*Note.*—All temperatures in Fahrenheit scale. Maximum temperature of season 79°, minimum 33°, and mean 49·1°. 81 fine days, 14 cloudy, 20 showery, and 17 rainy. Total rainfall $19\frac{15}{16}$ inches.

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in February, and twenty-three of these were consecutive; and out of thirty days in February and March, there were only three showery days, all the rest were bright and warm, days when any invalid could live out of doors from morning till night. There were fourteen cloudy, twenty showery, and only seventeen pouring wet days.

The total amount of rain also shows an advantage over last season, being $19\frac{15}{16}$ inches as compared with $30\frac{1}{8}$ inches. There was only $\frac{5}{16}$ inch fell during the whole of February, and on the other hand the unprecedented quantity of $6\frac{5}{8}$ inches fell in forty-eight hours on the 16th and 17th April. This last is no doubt a very startling observation to those who have never visited tropical or subtropical regions, but those who have done so will remember that the rain occasionally falls, not in drops, but in streams and even sheets of water.

Table I shows these facts more in detail.

A very important point in this, as in any climate for rheumatism, is the humidity of the atmosphere, for we are taught that the two climatic factors in the production of the malady are cold and damp, especially when in combination. But, up to the present time no observations at Hamman R'Irha on this point have been recorded, possibly because the place is even yet but little known.

I am aware that the sources of error in observing atmospheric humidity are many—depending as it does so much on the strength of the wind, the aspect, the height from the ground, time of day, presence of trees—and so every precaution was taken that was possible under the circumstances to insure correct results. Leslie's method, by means of wet and dry bulb thermometers, was the one used, the temperature being converted to the Fahrenheit scale, and the amount of moisture calculated by means of Glaisher's hygrometrical tables.

The 9 o'clock readings were taken six feet from the ground in a place sheltered by trees from the north-west and shaded by a board from the rising sun. There were 129 observations at this time of day, giving an average of 81 per cent. (complete saturation = 100) for December, 70 per cent. for January, 57 per cent. for February, 62 per cent.

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for March, 61 per cent. for April, and 66·2 per cent. for the whole season. The readings at 1 p.m. and 5 p.m. were made in the western angle of a south window, shaded from the sun, and so more nearly represented the condition in which an inmate would be placed. There were 38 observations at one o'clock, giving an average of 61·2 per cent., and 54 at five o'clock, giving an average of 71 per cent.

The mean amount of humidity on the whole 221 observations at all hours gives 66·1 per cent. For comparison it may be useful to state that the average winter humidity at Greenwich for the forty-one years 1842-82, as recorded in the Meteorological Society's reports, is 87 per cent.; and it was only on six occasions out of the total number of observations that the humidity at Hamman R'Irha reached this figure.

The dryness of the air, then, is one of the main features of the climate, and it seems to me to afford the principal explanation of the benefit derived by the rheumatic invalid. It is this, combined with a mild, equable temperature, which no doubt forms the chief source of success. It is a curious fact that careful observations on the moisture of the air are not often made at health resorts, and so my results cannot be compared with those of other places; but I am inclined to think that there are few winter resorts, if we except Egypt, which could vie with Hamman R'Irha in this respect.

A circumstance which relates to the temperature of a health resort, and upon which great stress is rightly laid, is the fall of temperature at sundown. In all countries where a clear atmosphere and cloudless skies prevail, the rapid radiation of heat from the earth immediately after the sinking of the sun gives rise to a sudden chilling of the air and to heavy dews. I have known a fall of 15° F. within an hour in some places, and a fall of 8° and 10° F. is by no means uncommon. This is a source of great danger to invalids of all classes, so at Hammam R'Irha the temperature was frequently noted one hour before and one hour after sundown; in all sixty-seven times, on days selected quite by chance, and the mean fall of temperature, calculated from these, was 3·4° F. On one occasion it was 12°, another 10°, and another 8°; the lowest being 1°.

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The large amount of sunshine in Algeria is the feature which most strikes visitors who come fresh from our English winter, and it is to be regretted that there was no instrument for accurately recording the number of hours per diem. However, in the absence of a sunshine recorder, I was in the habit of making daily notes of what I judged to be the number of hours during which the sun remained quite unobscured by clouds; an unscientific method no doubt, and must be taken for what it is worth.

The total amount of bright sunshine thus reached was 720 hours, out of a possible total of 1411 hours, or a trifle over one half.

The following table gives more detail on all these points and shows the figures for each month. Here also are recorded the number of days with north-west wind, the one which is generally cold and wet, and also the number of days with sirocco, though this latter gives rise to no inconvenience in the winter.

Concerning the temperature and analysis of the waters there is nothing to add to what is stated in last year's paper, except that on every occasion when the temperature was taken at the source, the hot spring was found to be 67° C. (152° F.), and the ferruginous spring 19° C. (65° F.) The reaction of both is neutral.

One correction is needed. Hammam R'Irha is always stated to be 2000 feet above the sea level, and this height appears in last year's 'Reports;' but repeated observations with my aneroid barometer never showed an altitude exceeding 1675 feet.

It is with much pleasure that one can record certain improvements in the accommodation of the hotel. The large piscines beneath the new hotel are now completed, so that the patient need not go out of doors to take his bath, and by the next season the douches and small bath-rooms are promised to be ready, so that all will then be complete.

The heat, not the vapour, from these baths below, permeates the floor of the large drawing-room, formerly complained of as being cold in the evening, and keeps it at a uniform temperature of 65° even without a fire.

The proprietor has very wisely decided to reduce his terms,

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## *Weather at Hammam R'Irha, from December 14th, 1884, to April 2nd, 1885.*

### Table II.

| | Humidity per centage (saturation=100). | | | | | | Fall of temperature at sundown. | | Proportion of bright sunshine. | | Prevailing direction and force of wind. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 9 a.m. | | 1 p.m. | | 5 p.m. | | | | | | |
| | Number of observations. | Average percentage. | Number of observations. | Average percentage. | Number of observations. | Average percentage. | Number of observations. | Average fall in degrees Fahrenheit. | Hours of sunshine. | Hours of daylight. | |
| Dec. 14th to 31st. (18 days) | 17 | 81 | 8 | 65 | 11 | 73 | 14 | 2·8° | 76 | 173 | 10 days N.W. No sirocco. |
| January . . (31 days) | 31 | 70 | 6 | 61 | 4 | 72 | 10 | 2·5° | 112 | 270 | 10 days N.W. No sirocco. |
| February . . (28 days) | 27 | 57 | 4 | 44 | 10 | 64 | 9 | 3·3° | 215 | 308 | Very little wind. 5 days N.W. 1 day light sirocco. |
| March . . (31 days) | 31 | 62 | 11 | 67 | 16 | 73 | 18 | 4·2° | 183 | 372 | 9 days N.W. 2 days sirocco. |
| April 1st to 24th. (24 days) (Total—132 days) | 23 | 61 | 9 | 69 | 13 | 73 | 16 | 4·3° | 134 | 288 | 15 days N.W. No sirocco. |
| Totals & averages | 129 | 66·2 | 38 | 61·2 | 54 | 71 | 67 | 3·4° | 720 | 1411 | 49 days N.W. 3 days sirocco. |

*Note.*—Total number of observations on humidity:—Percentage, 221; mean percentage of season, 66·1.

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and all the bedrooms now have fireplaces in case of need. Much still remains to make the place perfect, especially with regard to amusements; but I gladly record these improvements side by side with the favorable observations on the climate.

Of course, every region in the world has its winter or rainy season, upon which the crops and plants depend for their water, but the Algerian climate differs from others in the mildness and equability of its temperature, in the long spells of fine weather which occur, and in the fact that it rains heavily when it does rain, a large proportion of it falling at night. It is impossible to say for certain in any winter which months will contain the most fine weather, but if we may go by the last two seasons' records, January, February, and April contain the largest proportion. However, now that the baths beneath the big hotel are finished, they might be taken with safety any time between October 1st and May 30th.

The kind of clothing usually required for Hammam R'Irha is what we are accustomed to wear in England in the spring or autumn; but the invalid will do well to be also provided with warm things, and a pair of stout boots. Let him also take a stock of amusements, for, although there is a piano, billiard table, and library, the style of life is essentially a country one, and the nearest big town is sixty miles away—a town, however, abounding in interest.

There are several pleasant excursions, and there is a very fair amount of wild sport—partridge, rabbits, jackal, hyena and wild boar (all the winter), and quail in the spring—in the country around, which will delight a true sportsman of the old school who does not mind the stiff, hilly walking; but he will find it well to be provided with a dog—a good setter or pointer, not afraid of bushes, and who has been trained to retrieve is the desideratum.

The low valleys should be avoided after sundown, for there are rumours of a mild form of intermitting fever contracted in this way. The partridge season commences in August and ends in March.

There were not many visitors, and comparatively few invalids came last winter to Algeria, as, indeed, happened at

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most other winter health and pleasure resorts. This was accounted for partly, no doubt, by the depression of trade, but far more by the outbreak of cholera occurring just before the time when people usually journey south; and although neither this latter, nor the quarantine regulations, gave rise to any real inconvenience after the beginning of November, still the scare produced was enough to keep people away. Notes of such cases as came under my care will be found at the end, and as far as they go, tend to corroborate the observations of others, referred to last year, on the remarkable benefit rheumatic invalids derive from the treatment.

According to Dr. Renard[1] cases of gout are the most rebellious of all, and rarely derive advantage from the course; but a very intractible case (Case 1) of chronic gout improved immensely by perseverance, and a double course of baths. This patient, who had had the affection for upwards of twenty years, and visited several times the baths of Vichy, Contrexville, Royat, and Aix-les-Bains, wrote to me after the first course, "Mais j'ai trouvé à Hammam R'Irha une grande amélioration pour la détente des muscles et pour le jeu des articulations; puisqu'en arrivant ici, il y a cinq semaines, il fallait me porter; tout mouvement des jambes m'était impossible. Aujourd'hui je m'appuie sur des bequilles, et, si le mieux continue, j'espère bientôt pouvoir marcher m'appuyant sur deux bâtons." The details of his illness are to be found in the appendix. Cases of inveterate gout such as this are far more frequent in England than among the French, and I am inclined to think that those who are unable to stand the English winter, might find Hammam R'Irha worth a trial.

It will also be seen that cases of phthisis and of chronic bronchitis improved, mainly under the climatic influences. One case of acne and two of prurigo also derived benefit from the baths.

The records of the military hospital show a slight elevation of temperature in all cases for a few hours after the bath, and my own observations confirm this fact.

[1] 'Résultats Thérapeutiques d'Hammam R'Irha,' p. 6, 1882.

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*Complete List of Publications on Hammam R'Irha.*

Golozzi, Dr. E., 'Station Thermo-Minerale d'Hammam R'Irha.' Alger, 1877.

Dubief, Dr. Ferdinand, 'Note sur la station Thermo-Minerale d'Hammam R'Irha.' Alger, 1878.

Renard, Dr. Ernest, 'Station Thermale d'Hammam R'Irha.' Alger, 1880.

Pollock, Mr. G. D., in the 'Lancet' for March, 1881.

Brunton, Dr. Lauder, in the 'Practitioner' for April, 1881, and November, 1882.

Brandt, Dr. G. H., 'Hammam R'Irha a Winter Bath Station.' London, 1882.

Kobelt, Dr. W., 'Hammam R'Irha.' Alger, 1882.

Renard, Dr. Ernest, 'Résultats Thérapeutiques Hammam R'Irha.' Alger, 1882.

Savill, Dr. T. D., "Hammam R'Irha, as a Winter Health Resort," 'St. Thomas's Hospital Reports,' vols. xiii and xiv. London, 1884 and 85.

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## APPENDIX.

### Details of Cases Treated at Hammam R'Irha.

Case 1. *Chronic gout of twenty years' standing; marked amelioration.*—C. A—, a Parisian gentleman, æt. 53, coming of a fairly healthy family, passed the first twenty years of his life without illness. At the age of twenty he began to pass red sand in his urine.

He became very stout, and had an attack of "renal colic" when about twenty-five years old. At thirty he had his first attack of gout in the feet and hands. He got well of it for a time, but it recurred again soon, and gradually became chronic. Each fresh attack, like the first, came on quite suddenly and was attended by acute pain and tenderness, and by "high fever"; sometimes the foot was affected, sometimes the knee. He visited from time to time the baths of Vichy, Contrexville, Rozat, and Aix-les-Bains, but without benefit. For five or six years he had been unable to walk without the aid of two sticks, and for the past year had been a helpless cripple, being quite unable to walk, or only across the room by the aid of crutches. Latterly even passive movement caused him pain.

He was carried into the establishment, and this was his condition when he arrived. The knees and ankles were found to be almost ankylosed by deposits in and around the joints. Joints of upper extremities comparatively free. A good deal of subcutaneous fat everywhere, but viscera healthy. Urine free from albumen and of good specific gravity. Mind clear, and remarkably cheerful.

This gentleman took two courses of baths, lasting six weeks each, separated by an interval of about six weeks spent in Algiers. He took baths in the piscine nearly every day, followed by douche and massage. Once or twice he took a little colchicum, but the above was practically the only treatment pursued. He left on February 27th, when the following note was made "Can now walk up and down

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stairs by the aid of one crutch, and walks about the house and garden with crutches quite well. Knees and ankles still swollen and distorted, but much less than on arrival. Quite free from pain."

Case 2. *Rheumatic affection of right knee and periostitis of tibia; cure.*—O. H—, æt. 35, had lived an abstemious, healthy life, except for occasional attacks of dysenteric diarrhœa, contracted in India. He had not had a gonorrhœa for many years, but one year before coming to Algeria his left knee had begun to get stiff, and he could not extend it without pain. Left elbow had also been attacked from time to time in the same way, and he had had "rheumatic" pains flying about him.

On arrival he could walk, but only with a limp and with pain. The left knee was enlarged, more especially round the ligamentum patella, where there was marked thickening of the synovial membrane. No fluid in the joint. Great tenderness and some puffiness along upper and minor aspect of shaft of tibia. Viscera healthy.

He took about twenty-one baths in two instalments, separated by an interval of one week in Algiers. He also took 5 grains of iodide of potassium twice a day for a fortnight. On leaving he could walk perfectly well without any pain, and only had slight stiffness after a very long walk, and he is now quite well.

Case 3 *Chronic bronchitis and emphysema; amelioration.*—Mr. M—, æt. 23, has had "bronchitis" ever since the age of 10. He did not remember whether it began with an acute attack or not. The breathing had been getting much worse lately, he had been getting weaker, and always seemed to be "catching cold." Seven months previously he had expectorated about a teaspoonful of blood, and a smaller quantity more recently. No family history of consumption. On examination the chest showed signs of extensive bronchitis and emphysema of both lungs. Cardiac dulness a good deal obscured by the hyper-resonance of lungs, but there was some pulsation in the epigastrium. Viscera other-

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wise sound; no anasarca; digestion good. He was prescribed a vapour bath, fifteen minutes every day, and out-of-door exercise when fine. When he left after a month's stay he professed himself much better, and it was noted, "Much improvement in breathing, less expectoration, moist râles quite gone"—notwithstanding that there was a good deal of bad weather during his stay. This gentleman had passed some time previously in Algiers without improvement.

Case 4. *Chronic rheumatism after three acute attacks; great improvement.*—V. C—, æt. 35. His father had died of gout, and his mother was "rheumatic." The patient himself was healthy until the age of 27, when his first attack of acute rheumatism came on during a gleet which he had had for some time. The sole of the left foot was mainly affected and he was laid up for several months. He recovered after visiting Aix-la-Chapelle, and remained well till the age of 31, when the second attack came on, subsequent to another attack of gonorrhœa. This time more joints were affected, and especially those of the right arm, and he was incapacitated for work for six months. He recovered and remained well, except for occasional stiffness, until he contracted scarlatina five months before coming under my notice. The acute rheumatism came on five weeks after the advent of scarlatina and nearly all the joints in the body were affected. He went to Bath in the month of February without deriving any benefit, and then came to Hammam R'Irha. On examination the joints found to be affected were the left ankle, left hip, right shoulder and elbow, and the metacarpo-phalangeal joints of both hands. In all of them there were great swelling and stiffness, but no pain except on movement. He was obliged to walk with sticks, and the power of voluntary movement of the right shoulder was completely gone. The swelling in all cases seemed to be due to synovial thickening. He was very anæmic, and the muscles generally were wasted, especially the right deltoid. The heart was quite healthy and the other organs normal.

This patient took the baths almost daily for six weeks, with much benefit, and then in May returned to England. In August he wrote to me, "I am very much better, and can



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now use my arms fairly well. My right shoulder is the most crippled, but I think it is slowly getting better."

Case 5. The next case was that of a gentleman who came complaining of "*rheumatism*" in the left big-toe joint, and "rheumatic pains" flying about him. But the former turned out to be an inflamed bunion, and the latter were undoubtedly neurotic. He presented several of the early symptoms of general paralysis of the insane, and was not considered a fit case for the baths. However, he stayed a fortnight, and professed some improvement in his general health.

6. The Algerian colonists regard these baths as a cure for nearly all chronic maladies, and so it happened that two *cases of old hemiplegia* were sent to take the baths. But these made little or no progress, though they said their joints became less stiff.

7. Cases of *ulcer of the leg*, so common among the Arabs, are also sent in numbers to take the baths; but it is worse than folly for them.

Case 8. *Pulmonary phthisis; amelioration.*—D. J—, æt. 56, had had dyspnœa, cough, and profuse expectoration on and off for sixteen years. He had never expectorated blood, but had had night sweats, and was losing flesh.

When he arrived there was well-marked consolidation at both apices and signs of extensive breaking down just below the left apex (possibly a cavity), also coarse crepitation at both bases.

Whether this was a case of true tuberculosis or a form of chronic pneumonia I am not able to state positively. I had not the means of searching for bacilli at hand. There was no history of consumption in the family. He stayed eleven weeks and at the end of that time all the moist sounds had disappeared from his lungs, he had gained flesh and strength, and was improved in every way. He only took the warm baths twice a week.

9. This last patient, and also Case 2, complained of

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*prurigo*, which quite disappeared after the first few warm baths.

10. Several cases of *idiopathic anæmia*, of which no record was kept, derived benefit from drinking the chalybeate water, and regular out-door exercise.

These are condensed accounts from notes of all the cases taken by myself at the time, and are in no way selected. That there are not more is due to the causes before mentioned. All patients were in the habit of drinking a glass of the cold chalybeate water night and morning.

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# CLINICAL OBSERVATIONS ON CHOREA.

By W. B. HADDEN, M.D., M.R.C.P.

In the following paper I have chosen cases which illustrate some of the more unusual symptoms of chorea. One is apt to forget that chorea does not consist merely of certain characteristic movements. Symptoms, ordinarily slight in degree, may assume unusual prominence. Trivial mental deficiency may be replaced by insanity, muscular feebleness by true paralysis, and mere clumsiness of speech by absolute speechlessness. These rarer conditions are not altogether clinical curiosities, but sometimes have a practical aspect of the greatest importance both to the patient and to the doctor. To the physicians of St. Thomas's Hospital I have to express my thanks for permission to use the cases, and I must add also that some of these cases have already been described by myself in 'Brain' (July, 1884).

## 1. Paralysis.

M. G—, æt. 13, female, was admitted under the care of Dr. Stone on June 24th, 1885. There was no family history of chorea, hysteria, epilepsy, or paralysis.

The patient had never had a previous attack of chorea, and there was no history of acute rheumatism or fright.

She began to suffer from chorea eight months before

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admission, the arms being more affected than the legs, and the left side more than the right. At the same time her speech was very defective. She partially lost the use of her lower limbs within a fortnight of the onset, but it was not until four months ago that she became unable to walk. The movements gradually disappeared, the loss of power remaining.

On admission the child was quite unable to walk. The legs, though paralysed, were neither wasted nor rigid. Sensation was perfect. The plantar and patellar reflexes were brisk. She had full control over the evacuations. There were slight choreic movements of the tongue and arms, not of the legs. No curvature of the spine was present, but there was some bowing in the lower dorsal region. The heart was not enlarged. Its rhythm was occasionally irregular, and a short rough systolic murmur was audible at the apex. The other viscera were healthy, and the temperature normal. Cod-liver oil and a mixture containing iron and quinine were prescribed. On July 6th the induced current was ordered to be applied to the legs twice daily. A fortnight later the loss of power, though less, was very evident.

I examined the muscles electrically, and found no change in the reactions. The patellar reflexes, at this time, were normal.

She left the hospital on August 7th, with good power over the legs and quite free from choreic movements. The mitral systolic murmur persisted.

Here we have a simple paralysis of the lower limbs, without wasting or rigidity, and without change in the reflexes. No sensory trouble and no want of control over the bladder or rectum were present. In fact, the paralysis was what is conveniently called "functional" or "hysterical." Its causal connection with the attack of chorea is clear. It is curious to observe that the paralysis did not attack the parts most affected by the choreic movements, that is to say the arms.

A very similar case to the one just described came under my notice last year. The patient, a little girl eight years old, was under the care of Dr. Harley. There was no his-

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tory of scarlet fever, acute rheumatism or fright. Three weeks before admission she began to jerk, principally on the left side. Since the very beginning she lost power over her arms and legs.

On admission there were choreic movements of the left arm and leg and of the left side of the face. There was an occasional jerk of the right arm and leg. The tongue was affected in the characteristic way. Sensation was good. She was quite unable to walk, the legs giving way under her when she was placed upright. The patellar tendon reflex was absent on both sides. The extensors of the wrists were very weak. The heart was normal. The urine contained phosphates, and there was nocturnal incontinence.

On June 27th (twelve days after admission) it was noted that she had lost all power to move the legs, and that the extensors of the wrists were much weaker. All the muscles responded feebly to the continuous current. The movements still persisted without much change, and she was very restless at night. There was no sign of spinal disease. Three weeks later Dr. Harley observed that she occasionally rolled the head and shoulders and tossed the forearms, but otherwise the limbs were motionless. The muscles of all the limbs were remarkably flaccid and not tender when handled. As she lay in bed she could only draw up the legs very slightly. The mental condition was good. She was cheerful and slept well. She had control over the sphincters.

She began to improve shortly afterwards. The extensors of the wrist regained some power, she could hold a penholder in her hand, and could draw up her legs higher.

A month later the arms only jerked occasionally and very slightly. She could feed herself, but could not walk alone. The muscles responded well to the interrupted current.

She regained power over the legs slowly, and she did not leave the hospital until nearly five months after admission. The patellar tendon reflexes were absent throughout.

It is probable that the affected muscles in chorea are always deficient in force, but loss of power amounting even to marked paralysis may exist out of proportion to the

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intensity of the muscular spasm. Indeed paralysis may be the predominant symptom, preceding the choreic movements and persisting long after their disappearance.

### 2. Complete Loss of Articulation.

A. L—, æt. 7, female, was admitted into St. Thomas's Hospital under Dr. Bristowe on January 10th, 1879.

She had never had acute rheumatism. Eight months before admission she had been under treatment on the surgical side for chronic abscesses around the knee-joint.

Her present illness began two weeks ago with movements chiefly affecting the right side.

On admission the chorea was found to be general, but most marked in the face, tongue, and right side. There was great difficulty in articulation, and also some dysphagia. She had tinea tarsi on the right side, and several chronic indolent ulcers on the right leg and thigh, apparently the result of bone disease. No cardiac murmur was detected.

On January 19th it was found that she could not speak. Next day she made an attempt, said "yes" and "no," but refused her name.

On January 22nd she had recovered speech, but the words were jerked out and syllables often mispronounced and slurred. The day following she was very quiet, and speech was again entirely lost. The muscles of the face were less affected, and the tongue protruded more easily. The temperature the previous evening was 102·2°.

On January 24th, that is two days later, she could say a good many words quite distinctly, protruded her tongue quietly, and was altogether better. On February 3rd she was again unable to articulate, and the movements of the legs were markedly choreic. On February 18th she could say several words distinctly, and repeat her name. From that time she steadily improved, and was discharged cured on March 19th.

S. G—, æt. 14, female, was admitted under Dr. Stone on May 27th, 1879. She had never had acute rheumatism, but there was a history of fright just before the present attack.

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On admission she had general, but not very violent, choreic movements. The speech was slow, but not otherwise affected. She could not feed herself, and swallowed with difficulty.

On June 26th, she was found to have lost all power of articulation, and this continued for more than a week. I found that the right hand was decidedly weak, and that there was anæsthesia of the left arm and slightly of the left leg. A soft systolic murmur was heard at the apex of the heart. She was discharged relieved on August 6th.

S. R—, æt. 12, female, was admitted under Dr. Harley on May 30th, 1883.

She had had acute rheumatism when six years old. In January, 1883, she had another severe attack, which was followed by chorea and loss of speech.

On admission the movements were general, but most marked on the right side. She could not articulate, but the next day she said a few words. On June 14th it was noted that "the patient not only does not talk, but makes no attempt to frame words, and did not even try to speak to her mother." She protruded the tongue when asked. Since the previous day she had screamed much, and was very restless. On June 16th she could talk a little, and from that time continued to improve. There was a mitral systolic murmur. She was discharged cured on July 19th.

It is worthy of note that in these three cases the choreic movements were more marked on the right side. Such an occurrence suggests an analogy with right hemiplegia and aphasia.

It is stated by Dr. Hughlings Jackson that defect of speech is greater with right than with left hemichorea, and he uses this as an argument in favour of his well-known views on the pathology of chorea. Allowing this to be a fact of actual pathological value and not of mere coincidence, it is difficult to resist its application in the cases which I have just described.

Dr. Charles West evidently believes in the cerebral origin of the speechlessness of chorea. He says, "In the same way the power of speech is sometimes lost; and that neither in proportion to the affection of the muscles which subserve

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it, nor to the degree of general intellectual dulness, but the memory of words for the time is lost and the child will labour in search of words to convey the ideas with which its little brain is busy; will look wistfully around as if for help; and then despairingly give up the effort, and yet day after day return to it at intervals till the power comes back again, sometimes by degrees, as one may have heard a little bird strive to recover the lost notes of a tune it had been taught, sometimes all at once as a forgetten dream flashes back without effort on our memory."[1]

The facts at my command do not warrant a definite opinion. It is quite possible that the speechlessness in chorea has its seat in Broca's convolution, possible also that it depends on some defect in the co-ordinating centre in the medulla oblongata. One hypothesis is as likely as the other, and only facts can decide between them. The lesion, whatever it may be, is non-persistent, resembling in this respect hysteria and megrim. For the moment I will simply call attention to the apparent resemblance which exists between the speechlessness of chorea and the motor paralysis which has been already discussed. Both are transitory conditions, probably dependent on inhibition of motor centres and not necessarily due to exhaustion by antecedent spasm.

### 3. Anæsthesia.

E. R—, æt. 22, female, was admitted under Dr. Ord on September 16th, 1881.

When nine years old she had an attack of rheumatism, and was laid up three weeks. She married at twenty. In July, 1881, she had a miscarriage at about the sixth month. During the preceding spring she had noticed some twitchings of the right leg, which occurred after a fright. The arm became affected just before the miscarriage. When she began to get about the movements became much aggravated.

A month ago, after she had been out of bed for a fortnight, she suddenly lost feeling and power in the right side. After the miscarriage her hair fell out, and she suffered from eruptions on the skin and sore throat.

[1] 'Lectures on the Diseases of Infancy and Childhood,' 7th ed., p. 232.

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On admission she was suffering from typical chorea, more marked on the right side than the left. Sensation was abolished on the whole right side of the body, except on the toes, soles of the feet, fingers, and the area of distribution of the crural branch of the genito-crural nerve.

Sensation was also much impaired over the entire left half of the body. The patellar reflexes were absent. The plantar reflexes were slightly marked on both sides. The other superficial reflexes were absent on the right side, very slight on the left. The pupils were equal, and the sight and hearing good. Her memory was a little defective, but her mental condition was otherwise normal. There was a scaly syphilitic eruption scattered sparsely over the limbs, and there were some enlarged hard glands in the groins and beneath the jaw. The heart was normal.

She was ordered Liq. Hydrar. Perchlor., ʒss, Liq. Arsenicalis, ♏ij, Aq. menth. pip. ad ʒj t. d.

September 22nd.—Was slightly hysterical this morning.

24th.—Much quieter; muscles react equally to the induced current.

26th.—Sensation good all over, except for a few irregular patches of anæsthesia. She has a delusion that her mother is ill and dying. She soon recovered her mental balance. All the movements ceased about the middle of October, and she was discharged cured.

To the occurrence of chorea in pregnancy I shall allude later. In the present case it may be observed (1) that the patient had previously suffered from acute rheumatism, (2) that the choreic movements supervened during the early period of pregnancy, (3) that the disease became aggravated after the miscarriage, (4) that the onset of the anæsthesia was apparently sudden, (5) that the impairment of sensation was more marked on the side chiefly affected by the movements.

Anæsthesia is not very uncommon in chorea, but its presence, as in hysteria, is often overlooked not only by the physician but even by the patient. I am inclined to think that there is no rule as regards the distribution of the anæsthesia. Nevertheless in the majority of cases which I have seen, the anæsthesia when unilateral has been limited

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to the side chiefly affected by the movements, or, when bilateral, has been more marked on that side.

This is illustrated in the foregoing case as well as in the two following :

E. M—, æt. 20, was admitted under Dr. Harley on May 6th, 1879. She had had convulsions during infancy, and acute rheumatism ten years ago. Six weeks ago she had a severe fall and was much frightened. Three days later, movements began in the left arm, and were limited to that part until ten days before admission, when the chorea became general. About the same time her memory became impaired, and she began to have delusions. On admission the chorea, though general, was much more marked on the left side. The left arm and leg were very weak, and sensation was quite absent. There was also partial anæsthesia of the right arm. She became helplessly insane and nearly succeeded in poisoning herself whilst in the hospital.

E. R—, æt. 15, was admitted under Dr. Ord on January 22nd, 1879. Her mother and eldest sister were liable to faints, but there was no decided neurotic or other taints in the family. She had never had rheumatism or scarlet fever, but for the last six months had been under treatment for enlarged glands in the neck. A month ago she began to have twitchings of the left hand, then the face became affected, and lastly the leg. On admission there were slight choreic movements of the head, left arm, and both legs. There was also paresis of the left arm. It was found that there was anæsthesia of the left arm, and leg. She was discharged cured on March 19th.

In the next case the anæsthesia was chiefly on the right side, whereas the choreic movements were mainly left-sided.

E. B—, æt. 16, female, was admitted under Dr. Bristowe on June 25th, 1879.

She had had rheumatic fever. Five and a half years ago she had an attack of chorea. Three months later she had a second attack, and from that time until May 1st, 1879, there were occasional tremblings of the hands, feet, and face.

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On that day she had a fresh attack of rheumatism, which was followed by chorea. The movements affected both hands and feet, and slightly the face. The power of the right hand was much impaired, although the movements were less evident here than on the opposite side. She did not feel when a needle was thrust into the right leg, but flinched when touched with a pin in the left leg. Her mental condition was fairly good, but occasionally she called out in her sleep. There was a mitral systolic murmur.

On July 8th, sensation began to return in the right leg, and on the 18th there was only a little difference between the two sides. She was discharged cured on July 27th.

I have a very similar case under observation at the present time. The anæsthesia is limited to the skin, the special senses being unaffected.

### 4. Hysteroid Convulsive Attacks.

C. W—, æt. 15, male, was admitted under Dr. Bristowe on January 16th, 1882.

On December 20th he suddenly became faint and sick, and fell on his face. He was helped up, but a few minutes later he fell again, and began to kick about. He had some half a dozen such attacks on the same day. The choreic movements are said to date from this time.

The boy was found in the casualty room, lying on a couch, with the body rigid, and working his arms and legs about. He was quite conscious, but emotional, crying readily when asked about himself. His mother said that before the fit he complained of not being able to swallow, and of tightness in the throat. Later he was found to have characteristically choreic movements, with affection of speech. There was no anæsthesia. The heart was healthy. On January 22nd he complained of a lump in his throat, and very soon he jumped up, and would have fallen out of bed if he had not been caught. He rolled over on his face sobbing. When he was turned over his back became quite rigid and he worked his limbs about. He retained

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consciousness throughout. He was discharged cured on January 31st.

It is well known that emotional disturbance is a frequent occurrence in chorea, but hysteroid convulsive attacks are probably rare. It is worth noticing that in the present case the chorea seemed to have been ushered in by the convulsive attacks.

The leading symptoms to which I have called attention belong in all probability to the hysterical element of chorea. In connection with this point I must allude to a case of the greatest interest, described by Dr. Bristowe.[1]

The patient, who was a girl of nineteen, was admitted under Dr. Bristowe in 1882. She was suffering mainly from aphonia, but in addition she had a slight external squint, and some twitchings of the left side of the face.

There was little change in her condition on leaving the hospital. In 1883 she was again admitted with the same symptoms. She was also suffering from vomiting and emaciation, and from hysterical convulsive attacks. She was treated by the Weir-Mitchell method, under which she improved considerably, but the aphonia and the facial twitchings persisted. About a year later she again returned to the hospital. This time she was not only aphonic, but had lost also the power of articulation. "She could not phonate, excepting a little when she laughed or coughed, neither could she articulate; indeed, when asked to speak, she merely moved her lips vaguely, as though not comprehending how to adapt them to the utterance of articulate language, but there was no paralysis of the larynx or of the mouth or tongue . . . . . But though she could not speak she understood what was said, and she could answer readily in writing."

In addition she had hemianæsthesia with loss of the special senses on the left side. She remained much in the same state for nearly four months, when speech suddenly returned. She made rapid progress, but the hemianæsthesia still persisted when she left the hospital.

[1] The Cavendish Lecture on "Hysteria and its Counterfeit Presentments," the 'Lancet,' June 13th and June 20th, 1885.

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A few weeks later she again presented herself. The loss of articulation had returned and she was suffering also from typical chorea. The symptoms were said to have been brought on by a fright. It must be added that there was no previous history of chorea or rheumatism, and no cardiac disease was detected. She subsequently recovered the power of speech and the movements disappeared.

I have pointed out already that symptoms of a hysterical nature supervene at times in chorea. In the present case the converse is illustrated—the occurrence of chorea, genuine chorea, in hysteria. It may be remarked that absolute speechlessness is rare in hysteria, whereas its existence in chorea is not very uncommon.

### 5. Chorea in Pregnancy.

Under "Anæsthesia" I have already alluded to chorea in pregnancy. In that case the movements began in the early stage of pregnancy (about the third month), but instead of diminishing in severity after the miscarriage the disease became aggravated. Usually the affection persists until delivery or abortion, a not uncommon event, and then rapidly subsides.

A valuable table of cases is given by Dr. Robert Barnes in his exhaustive paper "On Chorea in Pregnancy" ('Obstet. Soc. Trans.,' vol. x).

In the following case the issue was unusually favorable.

The patient was a married woman, æt. 29, who was admitted under Dr. Harley on July 14th. She was said to have had rheumatic gout twice, but had never had chorea. The catamenia had been absent since March. At the end of May she had some trouble, which made her cry much. The movements were noticed on the right side, two days later.

On admission there was general typical chorea. She believed she was pregnant, and the condition of her breasts and the existence of an enlarged uterus reaching up half way to the umbilicus corroborated her opinion. There was no cardiac disease. In twelve days the movements had entirely disappeared. It must be added that it was a first pregnancy.

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The next case is one of considerable interest, as it illustrates the tendency to recurrence in succeeding pregnancies. The woman was twenty-six years of age, and unmarried.

There was no chorea or hysteria in the family. The patient herself has never had rheumatism, but seven years ago had right-sided chorea. The left side was not affected until six months later. She got well in a year. Two years afterwards she was again attacked, and was admitted under the care of Dr. Stone.

She remained in the hospital from June 8th until September 8th, 1882, when she was discharged cured.

It was apparently not discovered that she was in the family way, but when she was again admitted on June 9th of this year she acknowledged that she had been confined three months after leaving the hospital. The child died shortly after birth.

On her second admission she stated that she had some difficulty in speaking for five or six months, but the exact time when the movements were noticed was uncertain. The catamenia had been absent three months. On admission she had genuine choreic movements, especially marked in the face and tongue. She was constantly performing sucking movements and smacking her lips. The tongue was protruded jerkily, and when drawn in, occasionally bitten. The heart was normal. There was a good deal of purulent discharge from the vagina. Three months after admission she was found to be pregnant, the uterus reaching up to the umbilicus. Two or three weeks later, as the movements had almost disappeared, it was thought advisable to discharge her. I have notes of another case, in which chorea supervened in the fourth month of pregnancy and ceased between the sixth and seventh.

There is no doubt that in the majority of these cases the patient has already suffered from rheumatism or chorea, so that pregnancy can only be looked upon as a possible exciting agent.

My experience in the matter is small, as only four cases of chorea in pregnancy have found their way into the hospital during the last six years. There may be a causal connection between the two conditions, but it is certainly rare.

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# THE RESULT

OF

# EXCISION OF A PORTION OF RIB

IN

# FIFTEEN CASES OF EMPYEMA.

By G. H. MAKINS.

I am indebted to the kindness of the physicians of the hospital for permission to publish the subjoined notes of fifteen cases of empyema. The cases will be shortly detailed, and some remarks made as to their bearing on the various questions that have been raised with regard to the method of drainage by removal of a portion of rib.

Case 1.—A. L—, æt. 5½, male. (Dr. Stone.) Father and mother alive and healthy, four brothers and sisters alive and well, one rickety. Has had measles and whooping-cough. A strong healthy child until eight months ago; he was then admitted into the hospital with left pleurisy. He was tapped four days after admission and thirty-four ounces of pus withdrawn; three days later nine ounces were withdrawn by a second paracentesis; a third was without result. His general condition improved, but the left back continued dull from base to apex, so that a fourth paracentesis was per-



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formed, twenty ounces of pus being drawn off. Steady improvement followed, and five months ago he was discharged. Since then he has never been well, but has suffered with cough and pain, and hence sought readmission.

July 3rd, 1883.—Complaining of cough and pain in the left side, on which he lies. Respiration easy, pulse 100, regular, temp. 100°. Tongue clean, appetite fair: looks pale, clubbed fingers.

*Chest.*—Right side normal, left side motionless, intercostal spaces bulge, semi-fluctuating swelling over eighth and ninth ribs behind, very tender. Whole side half an inch greater in circumference than right. At left apex dulness and bronchophony, axilla and back dull throughout, absence of breath-sounds and fremitus, ægophony. Heart considerably displaced to right side, pulsation in epigastrium extending to nipple, but apex not distinct.

Five days after admission chloroform was administered, and three quarters of an inch of the eighth rib removed sub-periosteally. On opening pleura forty ounces of sweet pus were evacuated. One in eighty carbolic spray was used, the wound dressed with carbolic gauze, and five inches of three-quarter inch drainage-tube inserted. Thirteen days later iodoform and gauze were substituted for the carbolic, and following note was made:—Temperature has varied little from normal, once reaching 100°, and once 101° in the evening. Has greatly improved, takes food well, no cough or expectoration. Heart almost normal in position. Breath-sounds audible throughout left side, although some comparative dulness persists. The chest is markedly fallen in laterally and below the clavicle. The tube was removed one month after the operation, and three weeks later the sinus closed. After a week the sinus reopened spontaneously, and six ounces of pus escaped. After this about two drachms of pus continued to be discharged daily from sinus, but the boy was up and about and quite comfortable. He was discharged fifteen weeks after the operation to go to Brighton. The sinus was closed. Much falling in beneath clavicle in left lateral region, breath-sounds fair in upper half of lung, faint and distant below, comparative dulness over whole back. Liver dulness begins at sixth rib and reaches to one

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inch below ribs. Heart apex beats just below ribs to left of xiphoid cartilage, pulsation in epigastrium, dulness extends half an inch to right of sternum. Sounds normal.

Nine weeks later he was readmitted, the sinus having reopened spontaneously some days before. The left lung was then dull throughout, with feeble harsh tubular breath-sounds and lessened vocal resonance, breath-sounds strongest at apex and root, no moist râles. Vesicular murmur increased on right side. The position of the heart unchanged, pulsation in neck and bruit (inorganic). Liver and spleen reach nearly to umbilicus, liver somewhat pushed down. About three drachms of pus daily from sinus. An anæsthetic was given, and the ends of the resected rib found still a good three quarters of an inch apart, the ribs above and below much approximated. About ten ounces retained pus evacuated and one-third inch drain inserted. Three weeks later he again left the hospital, there was no discharge from the tube, but it was left in fourteen days longer. An ordinary probe could be passed its whole length into the cavity. There was scarcely any appreciable dorsal scoliosis; the right shoulder looked a little lower than the left. The falling in in the subclavicular region was the most marked change.

October 15th, 1885.—Girth: Right side 11 inches, left 10½. Much flattening in subclavicular and lateral regions of chest. Sternum and right side of chest convex and prominent; sternum sloping away rapidly to left side. Spine straight. Slight comparative dulness on left side, breath-sounds normal. Opening in rib closed, no abnormal callus formation. Looking strong and healthy.

Case 2.—P. B—, æt. 5, male. (Dr. Stone.) Three months before admission seen by Dr. Julius Pollock, then suffering with left broncho-pneumonia. Six weeks later a large part of the upper lobe of the left lung was solid, and the child was rapidly going downhill. He was sent to Southend for five weeks, and on his return a fluctuating swelling had appeared just below and behind left nipple. This was incised at Charing Cross Hospital and several ounces of pus evacuated. After seven or eight days' residence there he

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came to St. Thomas's in consequence of the hospital being closed for repairs.

*On admission.*—No cough, respiration 48, though quick not embarrassed; pulse 100, quiet, regular. Tongue clean, bowels regular, appetite good.

*Chest.*—Left side motionless, intercostal spaces effaced, side distended. Dulness throughout, extending to right of middle line anteriorly. Respiratory murmur audible over back, but much less distinctly than on right side. Complete absence of vocal resonance and fremitus. Spleen somewhat pushed down. Heart displaced to right, pulsation in epigastrium and in fifth right interspace. Liver reaches one and a half inches below ribs. Cardiac sounds normal. Right side of chest normal. Urine normal. Granulating spot at site of previous opening. No discharge of pus. A week later the sinus recommenced to discharge. A probe passed in found to lead downwards into pleural cavity.

July 31st.—Ten days after admission chloroform was administered, and after making an exploratory puncture in the eighth interspace behind, the eighth rib was cut down upon and three quarters of an inch resected in the post-axillary line. About ten ounces of pus were evacuated, and a half-inch tube five inches long inserted. On introduction of finger it impinged on diaphragm covering spleen. The introduction of the finger was followed by very free bleeding from the granulations, enough to cause alarm, but it ceased spontaneously on syringing out the cavity with eucalyptus. Eucalyptus spray and dressing. Patient a good deal collapsed after operation. The progress after operation most satisfactory, patient gained strength, slept well, and had normal temperatures morning and evening. The pus was blood-stained for the first two days; at the end of nine days the wound was still dressed daily, and about two ounces of sweet pus evacuated. At the end of a month iodoform dressings substituted for the eucalyptus.

During September the boy continued to improve in his general health, but discharge continued.

October 14th.—No cough or pain. About half an ounce of pus daily by tube, which is closely held by granulations. The chest is much fallen in anteriorly; at upper part the

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circumference is half an inch less than on right side. Spinal column curved to right. Heart still inaudible to left of sternum. Breath-sounds tubular at apex, faint elsewhere, absent at lateral base. His condition altered little, and on November 16th he was discharged to go to the sea-side.

January 9th, 1884.—Rather more than five months after operation the chest was in the following condition :—Right side resonant throughout, vesicular murmur exaggerated. Left side almost motionless. Right side, resonance anteriorly down to third rib. Respiratory murmur harsh. Dulness in left axilla with absence of breath-sounds. Dulness below level of left nipple with amphoric breathing. Comparative dulness over whole of back, but respiratory sounds almost as loud as on right side. Vocal resonance increased below nipple, otherwise normal. Front of chest much fallen in below clavicle. Circumference at nipple one inch less on left side.

Right dorsal scoliosis ; spines about three quarters of an inch to right, lumbar spines about half an inch to left in compensatory curve. Right shoulder slightly raised, and angle of left scapula rather prominent. Tube still in sinus, about two drachms of pus discharged daily. Liver pushed down, not much, if at all, enlarged. Looks fragile, but is in fair general health. Urine : no albumen.

October 14th, 1885.—Very pale and anæmic, has been losing ground considerably of late. Comparative dulness over whole back, but breath- and voice-sounds almost normal. Cardiac dulness still extends to right of sternum. Expectorates some purulent matter every third or fourth day. Sinus still open, very slight discharge, no excess of callus. Girth at nipple line shows an inch and a half contraction of left side of chest. The falling in is marked in antero-lateral regions, right side prominent, also sternum, which slopes to left. Considerable dorsal curvature and elevation of right shoulder.

Case 3.—J. R—, æt. 5, male. (Dr. Harley.) Father, mother, two sisters, and one brother all in good health. Measles at ten months, neither whooping-cough nor scarlet

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fever. Three weeks ago taken with fits, after which he was unconscious. At this time he had rigors and vomited, since then appetite good, bowels regular, and he has slept well. Has suffered with cough, difficulty of breathing, and wheezing of chest; during this period no expectoration.

*On admission* (December 20th, 1884).—Breathing rapidly, lips and face blue, lies on left side with head hanging over edge of bed. Scab of recent herpes at angle of mouth.

*Chest.*—Left side: Motionless during inspiration. Bulging of intercostal spaces and one inch increase of girth at nipple line. Breath-sounds throughout very distant and faintly tubular. Vocal resonance much impaired, but not absent completely. Complete dulness from base to apex, reaching to right border of sternum above præcordia. Right side: movements exaggerated, breath-sounds harsh and exaggerated throughout, occasional moist râles.

*Heart.*—Sounds normal, impulse palpable to left of right nipple in sixth interspace about two inches from sternum. Occasional dry cough. Temp. 101·2°.

*Liver* depressed, left lobe reaches nearly to umbilicus. Spleen not to be made out. Paracentesis of chest, twenty-four ounces thick, greenish, sweet pus drawn off.

21st.—Slept well, much relieved by tapping, still lies on left side, cardiac impulse still palpable to right of sternum, but not so distinct, dulness reaches one inch only above præcordia, dulness has receded to left border of sternum. No change in auscultatory sounds. Less lividity.

23rd.—Chloroform narcosis. One inch of sixth rib resected in post-axillary line. Thirty ounces sweet pus evacuated. Three quarter-inch drain inserted. Carbolic spray, eucalyptus gauze dressing. After evacuation of fluid heart returned so much to left side that impulse was palpable two inches internal to left nipple.

Progress satisfactory till 29th, then temp. rose to 103° F., about three to four ounces sweet pus in daily dressing. Temp. kept up, and on January 1st, 1885, not so well, no rigor, but temp. has twice reached 105° F. This evening normal. Sweats occasionally and looks flushed. Tongue moist and clean. Appetite fair. Dressing quite sweet, wound normal, granulations rather pale. No sign of any

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retention of pus. Breath-sounds audible, tubular, resonance extends to extreme base.

January 4th.—Looks pasty, sleeps in snatches and not well. Temp. 100·2° (105° again yesterday), pulse 130. Tongue dry, no fur, bowels open twice yesterday, takes food well. Dressed last night, no change. Coughs a good deal, no expectoration.

11th.—Improved, temp. lower.

18th.—Iodoform dressing.

22nd.—Temp. again up to 101·8°. Moderate amount of sweet discharge in dressing.

February 13th.—Temp. has been rising to 102° odd last few days. This morning 103°. Looks flushed, no sickness. Tongue clean, bowels open, appetite good. Granulations obstructing tube, which was replaced after removal and rubbing down of granulations with arg. nit.; about two ounces sweet pus escaped during operation.

Chest a good deal contracted antero-laterally, lateral curvature very slight, perhaps half an inch in mid-dorsal region. Right side expanded; left side, dulness below angle of scapula with feeble distant breath-sounds, respiration tubular at angle of scapula, feeble in lower axilla below operation wound. Heart normal in position.

March 14th.—Tube removed.

18th.—Wound closed.

28th.—Walks about comfortably, wound strongly healed. Chest resonant throughout, some comparative dulness at left base. Falling in of chest chiefly in antero-lateral and subclavicular regions; considerable depression in left nipple line. Lateral curvature nil, at most half an inch, circumference of chest half an inch less on left side. Breath-sounds throughout. Bronchial sounds rather better conducted on left side. Heart's apex in fifth left interspace, almost perpendicularly below nipple. Abdomen looks large, liver one inch below ribs, no abnormal depth of dulness. Discharged on 31st.

October 12th, 1885.—Healthy looking. Chest resonant throughout, and respiratory sounds normal. Heart's apex normal in position. Some general contraction of left side three-quarters of an inch less than right, sternum projecting some-

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what. No curvature of spine. Gap between ends of ribs filled up, no excess of callus.

Case 4.—F. R—, æt. one year and three months, male. Family history good, healthy up to present illness. Whooping-cough two months ago, improving last month, convulsions occasionally, on Christmas Day eight fits. Fourteen days ago swelling over right lower ribs noticed, which has steadily increased in size since.

*On admission* (February 3rd, 1884).—Large fluctuating swelling over sixth right rib behind, portion of ribs seems deficient, tumour bulges with inspiration, and retreats during expiration. Breath-sounds throughout chest normal, audible over tumour, (?) louder than elsewhere. Heart and liver not displaced. Temp. 101°. Swelling aspirated, and six ounces of sweet pus withdrawn.

5th.—Swelling has again regained size on admission and same characters.

11th.—Increasing, varies with respiration, no crepitant feeling, respiratory murmur feeble over it, some dulness over swelling and at lateral base. Temp. last evening 102°, this morning normal. Respirations 84, very drowsy.

15th.—Swelling has been steadily increasing, and child losing ground, temp. often above 100° F. Incised, about four ounces of creamy pus evacuated. Dressed with eucalyptus; on inserting finger a fracture of rib with an inch and a half separation of fragments discovered, finger entered pleura, no doubt injured by fractured rib. Empyema localised.

21st.—Dressings not done daily, putrefaction has occurred. Temp. 98·2°, improving steadily. Iodoform dressings.

25th.—Discharge much diminished, tube removed. A good deal of thickening (?) callus about incision. No moist sounds, no dulness except just around wound.

During March cavity gradually contracted, the child's general condition improving; on 24th discharged. Wound healed.

In four days readmitted with a fresh abscess; this was opened and in three weeks child left well.

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Case 5.—R. J. I—, æt. 31, male. (Dr. Sharkey.) Father died of bronchitis, mother alive and well, two brothers died in infancy. Eighteen years ago "inflammation of bowels," twelve years ago smallpox. Pleurisy four months and a half ago, tapped four months ago, fluid has not re-collected in large quantity, but rise of temperature during last weeks rendered presence of pus very probable. No signs of tuberculosis at either apex. For last three weeks night sweats, pain in side, very constant and harassing cough, with abundant muco-purulent expectoration.

*On admission.*—Pain and tenderness in right side, cough, abundant yellow expectoration. Chest moves freely except in lower half of right side. Intercostal spaces full, a marked swelling just anterior to and below angle of right scapula, about three inches in diameter, and lying over fifth and sixth interspaces; this is elastic, (?) fluctuating, in its centre is scar of old aspiration wound. No redness or œdema. Dulness over lower half of right back, absence of vocal fremitus, voice-sounds feeble, respiration scarcely audible. Left back normal, front of chest normal on both sides. Other organs (thoracic and abdominal) normal.

May 31st, 1883.—Incision over fifth rib in post-axillary line, one inch of rib excised subperiosteally. Pleura much thickened. Six ounces of very thick pus evacuated. Dressed antiseptically, carbolic gauze, &c. Three quarter-inch drain, five inches long.

Patient progressed favorably after the operation.

June 10th.—Tube had to be shortened as lung began to press it out. Discharge free, quite sweet. Temp. 100°; little pus and cough; much better. Appetite good, looks very much improved.

12th.—No further contraction of cavity. Temperature still rises at night. Dressing sweet. Physical signs at base as on admission, (?) due to pleural thickening. No signs at apices.

16th.—Iodoform dressings. Left side of chest normal. Right: Comparative dulness at lower half; breathing feeble; voice-sounds much diminished.

30th.—Steady improvement in general condition; about half an ounce of pus daily from wound. Temperature

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normal, occasionally rising to 100° F. No sweats or cough.

July 10th.—Little change, drainage-tube shortened.

20th.—Smaller drainage-tube substituted for original size.

August 6th.—About one drachm of pus discharged daily; probe passes three inches upwards.

13th.—Presented. Breath-sounds audible over whole right back, distant at base, where comparative dulness still exists. Discharged on 6th. Much antero-lateral contraction in lower half of right side of chest. Circumference at nipple line, right 15, left 15½; at level of xiphoid aperture, right 14½, left 15.

Sinus did not heal, and about four months later a small accumulation of pus needed to be opened. In July, 1884, a fluctuating swelling appeared just below right nipple, which was opened and about six ounces of pus evacuated.

Oct. 20th, 1885.—Since then sinuses have persisted up to present. Air enters freely throughout, comparative dulness at base. Upper part of chest moves freely, lower half very little. No marked rise of liver dulness. Chest much flattened over hepatic region anteriorly; considerable falling in below clavicles. Girth: right 14⅛, left 14⅜. Slight dorsal curvature. Looks fat and well, does his work daily as a clerk. Slight cough and muco-purulent expectoration. About one drachm discharge daily from sinuses.

Case 6.—G. W—, æt. 13, male. (Dr. Harley.) Father died ten years previously of phthisis. Mother alive and well, also one stepsister and one sister. No previous illness except "ulceration of the eyes" at five years old.

A fortnight before admission pain in left side, eased by lying on that side, cough and yellow expectoration, has kept his bed whole time, applied for admission in consequence of sudden oppression in breathing.

*On admission* (August 26th, 1883).—Very pale, fair, freckled, red-haired boy. Thin, complains of difficulty in breathing and pain in left side. Temp. 99·6°. Resp. 24; lies on left side, which moves little, is enlarged, and spaces bulge. Dulness throughout on left side except at apex in front, dulness extends to right margin of sternum. Breath-sounds

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very distant, almost inaudible at base, tubular at apex. Vocal fremitus absent. Right lung normal.

*Heart.*—Diffused wave on right side of sternum, reaching up to fourth costal cartilage, and outward nearly to nipple, pulsation in epigastrium, where a faint systolic bruit is audible. Pulse 124. Abdomen natural; tongue clean; bowels regular; appetite good. Urine 1025; no albumen. 9 p.m.—Paracentesis thoracis, ninety ounces of fluid evacuated; two thirds pus, sp. gr. 1025.

September 4th.—Patient was relieved by paracentesis, but fluid has re-collected. Paracentesis repeated, eighty-eight ounces of pus evacuated; patient's temperature has ranged very much higher last four days (up to 103·6° and not below 100° F.). Operation followed by violent coughing and distress. Resonance restored over upper third only by tapping; breath-sounds weak but audible throughout. Heart's position ill defined, but pulsation exists to right of sternum.

10th.—Little change in general condition. Temperature fell after last tapping, but last night again rose to 102°. Cough troublesome, tenacious white expectoration. 8.30 p.m.—Ether; subperiosteal resection of three quarters of an inch of eighth rib in post-axillary line, large three quarters of an inch tube inserted. Eucalyptus spray and gauze. Seventy ounces evacuated, odourless.

14th.—Has progressed well since operation. Temperature has not reached 100°. Dressed daily, sweet.

17th.—Lung resonant posteriorly except a three-inch circle about centre of scapula. Discharging freely.

October 9th.—Dressing has putrefied, changed to iodoform and wool. Discharge free. Temperature normal, occasionally rising to 100° F. Air enters left chest freely, resonant throughout; respiratory murmur comparatively weak at base. Side is contracted antero-laterally and below clavicle moves less freely than right.

Wound continued to discharge until the 12th of December; the patient then got up, general condition fair, walked about the ward without much fatigue. The ankles swelled somewhat, but the urine contained no albumen; sp. gr. 1030.

December 20th.—Considerable contraction of chest; slight curvature of spine. At nipple line: Right 14¾, left 13. Two

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inches below nipple: Right 14¼, left 12¾. Left hospital January 4th, 1884.

October, 1885.—Strong and healthy, according to account given by relatives in Devonshire.

Case 7.—J. G—, æt. 44, male. (Dr. Sharkey.) Family history good. Has been a healthy man, occasionally troubled with rheumatics up to the present. A month previous to admission taken with a shivering fit and went to bed, but was at his work again the following day. Two days later began to expectorate dark-coloured sputum, since becoming yellow. Fourteen days ago sharp pain in the side again confined him to his bed; no cough or dyspnœa, tenacious yellow sputum containing little air. Urine copious, high coloured. Bowels confined, appetite bad.

*On admission* (August 13th, 1883).—Pain in right hip noticed three days, no history of injury, great tenderness over crural and sciatic nerves. No other evidence of effusion in hip, and although hip is flexed and rotated out, movements can be made without causing excessive pain. Tenderness on pressing trochanter, but not severe; pain does not radiate in course of nerves.

*Chest.*—Expansion imperfect, right side moves best, respiration 30. Complete dulness on left side except at apex; vocal fremitus diminished throughout, absent at base. Breath-sounds distant, bronchial over root of lung and along spine. Vocal resonance diminished, measurements on both sides of chest equal. Cardiac dulness extends to beyond right of sternum, apex beat impalpable, pulsation in epigastrium; (?) some pericardial friction at base. Pulse 100. Abdomen natural, tongue dry, slightly furred. Urine 1022, clear, no albumen. Temp. 102·8°.

20th.—Left half of chest remains immoveable, dulness extending to clavicle and to mid-line posteriorly, anteriorly rather less. Tubular breath-sounds at apex, below no breath-sounds or vocal fremitus; vocal resonance ægophonic. Hip less painful, has had a four pound extension on for the last few days.

23rd.—Aspirated, twenty-six ounces of pus evacuated.

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Complaining of pain and tenderness in lower third of femur and knee.

27th.—Since paracentesis, temperature has ranged between 99° and 103° F., to-day a slight rigor, temp. 102·4°.

*Chest.*—Condition unaltered, except that second intercostal space is resonant anteriorly. Tongue very red, patches of thrush.

30th.—Temp. 103·6°; complaining much of hip.

September 8th.—Aspiration repeated; seven ounces pus withdrawn.

10th.—Temp. 103° at noon, range as before, pulse 108, resp. 36. Anæsthetised with chloroform. About one inch of sixth rib resected subperiosteally in post-axillary line. Eucalyptus gauze and spray, sixteen ounces pus evacuated; three quarters of an inch tube.

13th.—Temperature has been on the whole lower since operation, but reached 102° yesterday. General condition is not much altered. He does not lie bathed in sweat as before, but he retains a septic yellow aspect. No odour in the breath. No evidence of any new deposit. The signs in the femur are unchanged.

16th.—Looking flushed and weak; some pain and dyspnœa, with muco-purulent expectoration streaked with blood. Discharge has been free, and dressings have been changed daily, but to-day putrefaction has occurred. Iodoform dressing, cavity washed out with salicylic acid lotion.

During the next month he made little progress, the discharge from the pleura lessened in quantity, and the hip remained unaltered. He lay on his back, complaining little, taking food well, and sleeping with the aid of occasional morphia injections. The temperature very irregular, often reaching 103° and 104°, usually, however, higher in the evening. An attack of diarrhœa lasting some days was checked by astringents. During November he steadily improved; constant discharge of about half an ounce of pus daily, continuing from the side. Temperature normal for last week.

December 7th.—Health and strength much improved. Cough and expectoration have gradually ceased, his appetite is good, there is more colour in his face and he looks cheerful. Wound discharging less, pus has been sweet

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since change of dressing. The extension on hip has been discontinued for some time and he has suffered no pain, but on examination to-day a dorsal dislocation discovered. Temperature practically normal, occasionally 99-100°.

21st.—Tube removed on 14th, wound healed.

January 10th.—Improving, but wound has reopened, and slight discharge takes place; tube replaced.

12th.—Considerable discharge of pus.

February 10th.—Much improved; extension taken off lower limb, and patient allowed to get up. Slight discharge from wound in side tube removed fourteen days ago.

26th.—Wound healed.

April 17th.—Patient has been well as to his side until two days ago. Temperature then rose to 101·2°; on the 16th to 102·8°, and in the evening he had a rigor; erythema came out over the chest. This morning the temp. is 101° and the erythema is fading. No fresh signs in chest.

21st.—Spontaneous discharge of pus from cicatrix in side, wound dilated with dressing forceps and a third inch drain introduced, about one ounce of pus escaped on opening and a second ounce when the tube was inserted. Pus sweet. Temperature normal to-day.

May 2nd.—Rather more discharge and side very painful. Knee more painful than hip. Quite as much discharge; temperature still keeps up above 100°.

8th.—Effusion into knee. Splint applied.

June 9th.—Up again, walks without knee splint with crutches. Two and a half inches shortening due to hip.

The wound healed during July, and on the 10th of September he left the hospital, and has since been earning his living as a cabman.

Case 8.—W. F—, æt. 58, male. (Dr. Harley.) Father died of bronchitis, one of two brothers of phthisis. Small-pox and typhoid fever some years previously. Fractures of right arm, left leg, and right ribs on different occasions.

Nine days ago got wet through, and since then has suffered with cough, tightness of chest and pain. Expectoration has been very abundant, he says as much as a quart per night.

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*On admission* (August 28th, 1883).—Thin, spare man, looks about his age, complains of shortness of breath and cough. Tongue fairly clean, appetite bad, bowels regular. Temp. 100·2°. Urine clear, sp. gr. 1020, acid, no albumen. Abdominal organs normal. Respiration shallow, both sides move equally, 40. Right lung: Resonant anteriorly, respiration wheezing, dulness over lower quarter posteriorly, diminished vocal resonance and fremitus, breath-sounds distant, faint friction-sound at upper level of dulness. Left lung: Anteriorly percussion note higher in pitch than right, expiration prolonged, vocal resonance increased. Posterior respiration harsh at base. Heart-sounds normal, pulse 80. Liver not notably depressed.

September 4th.—Has suffered much with pain and cough since admission. Temperature has risen, at evening, to as high as 103·2° F. This morning, temp. 101·8° Dulness and absence of vocal fremitus at right base has extended upwards to angle of scapula, and there is distinct ægophony, friction below axilla. Some crepitation at both apices, especially the right.

12th.—Still complaining of pain, sleeps badly, temperature this morning 100°, still continues to rise irregularly. Dulness and signs of effusion on right side increasing, now reaching to mid-scapula and extending around in nipple line.

15th.—Aspiration, ten ounces of sweet pus removed. Temp. 100°.

18th.—Temperature has not risen above 100° since aspiration. Dulness as before, much offensive muco-purulent expectoration. 3 p.m.—Ether, about three quarters of an inch of seventh rib resected subperiosteally and fifteen ounces of stinking pus evacuated. Eucalyptus spray and dressings. Ether was given in spite of the bronchitis, in consequence of the extreme feebleness of the pulse. 10 p.m.—Very feeble, pulse 96, small and weak. Temp. 98·6°. Redressed as discharge had come through.

19th.—Slept badly, but respiration much easier. No sputa since operation. Temp. normal. Pulse 100°, weak.

20th.—Slept badly, temp. normal. Dressing changed to iodoform and wool, discharge very offensive, wound granulating. Takes food fairly.

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25th.—Discharge very copious and offensive, has been more comfortable since the constriction of the antiseptic dressing has been removed Bowels confined. Temp. 98·2°.

October 2nd.—Little change. Dressing is often done twice daily as there is much discharge; this not so offensive as formerly. Sleeps fairly, coughs little, but there is some offensive muco-purulent expectoration. Complains of want of appetite at midday, has manifestly lost flesh since operation. Tongue clean, bowels fairly regular. Complains of pain in abdomen occasionally. Temp. normal.

9th.—Still dulness at right base, but air enters freely and there is little difference in vocal resonance and fremitus on the two sides.

After this date the patient gradually sank, the wound continuing to discharge, and he died of exhaustion without any special symptoms on December 21st, three months and three days after the operation.

The following conditions were noted at the post-mortem examination performed by Dr. Percy Smith:

Weights of organs: Right lung 2 lb. 7 oz.; left lung 1 lb. 8½ oz.; heart 10 oz.; liver 3 lb. 12 oz.; kidneys 11¼ oz.; spleen 3½ oz.

Body extremely emaciated, slight rigor mortis present throughout. Probe passes upwards and downwards from operation wound, but not across chest.

Right lung firmly adherent throughout to anterior and external aspects of chest wall. Behind, an elongated cavity between lung and chest wall extended from apex downwards and outwards to wound and thence to diaphragm. Cavity about three inches wide, lined with an abscess membrane, and containing some thin, unhealthy pus. Pleura much thickened. Lung studded throughout, but especially in upper lobe, with numerous patches of broncho-pneumonia and tubercles, at apex several small cavities crossed by large vessels, and lined with an abscess membrane. Patches of consolidation intercepted by areas of healthy crepitating lung tissue. Much bronchitis. Left pleura: Some old adhesions at apex. Several small patches of consolidation branched, and surrounded by tubercles at apex of lung. No actual cavities, much bronchitis. Pericardium normal, heart,

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both sides, somewhat large, pale, and flabby, valves normal. Liver large and fatty. Kidneys and spleen normal. No further tubercle, no necrosis of ribs, no new bone formation, ends granulating.

Case 9.—J. W. S—, æt. 19, male. (Dr. Bristowe.) Twelve months previous to admission was sent a voyage to Australia in consequence of weak health. Present illness commenced some weeks ago, and one week ago he was seen by Dr. Bristowe, who tapped the chest and drew off a pint of sweet pus.

*On admission* (December 22nd, 1883).—Pale, thin man, lies on right side, suffering with extreme dyspnœa. Heart dulness commences at fourth rib, apex beats in sixth space in axillary line; impulse visible over whole præcordia up to second space; thrill at apex. Harsh pericardial friction in fourth and fifth spaces.

Left lung: Deficient resonance anteriorly, breath-sounds harsh, crepitation at base anteriorly, back not examined; circumference 16¼, rt. 17¼. Right lung: Absolute dulness anteriorly, reaching one inch to left of sternum. Faint tubular respiration.

Posteriorly absolute dulness except at extreme apex. Vocal fremitus absent throughout, voice-sounds ægophonic.

Liver: Edge palpable at level of umbilicus. Spleen not palpable. Right side of chest motionless, with bulging of intercostal spaces. Pulse 148, temp. 100·2°, resp. 42. Tongue moist with patches of fur. Urine 1035, acid, abundant urates, no albumen.

Patient anæsthetised, chloroform at starting, but pulse became so weak that ether was substituted, then so much lividity that the latter was discontinued and operation proceeded with as rapidly as possible. Sub-periosteal excision of ninth rib in post-axillary line; 135 ounces of pus evacuated, sweet, containing numerous shreds of lymph. Lung to be felt distinctly moving with respiration (apparently pressed over by left lung), adherent to thoracic wall behind, finger passed down to diaphragm, about four inches below wound. Carbolic spray, encalyptus gauze dressing, three-quarter inch drain. After evacuation of pus pulse



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improved, and the lividity in great degree passed off. Heart's apex did not return more than half an inch, but left lung came over half an inch to the right of sternum.

Side redressed during the evening; the tube had slipped within the margins of the wound; on coughing it was expelled, together with three to four ounces of bloody serum. The diaphragm had already risen above the level of the opening. Temp. 99°, pulse 124, small, irregular in volume and rhythm. Resp. 36. Sweating freely.

23rd.—Slept a little, feels much easier since operation, but still breathes very rapidly. Temp. 98°, pulse 148, resp. 48. Redressed, rather faint. During the day patient gradually sank, and died at 5 a.m. on the 24th.

*Post-mortem examination* (by Dr. R. Percy Smith).—Right lung 2 lb. 9½ oz.; left lung 1 lb. 6 oz.; heart 15 oz.; liver 3 lbs. 13 oz.; kidneys 14⅓ oz.; spleen 7 oz. Well-nourished man, rigor mortis throughout. On inserting finger into operation wound, diaphragm immediately below its level. On opening chest right lung collapsed, but not quite flat against spine, much larger than is usually the case with so large a pleural effusion; this probably due to adhesions between posterior border and chest wall, and a large band passing from antero-lateral aspect. On section much congested, completely airless. At base two small ragged cavities the size of damsons, containing thick pus. No apparent connection with bronchi. No tubercles visible. Left pleura: some scattered adhesions, lung congested, otherwise normal. Pericardium covered with a thick layer of recent lymph, surfaces adherent, adhesions soft and readily broken down. Heart: left ventricle thickened, no valvular disease. Early atheroma of aorta. Liver normal; spleen enlarged, otherwise normal. Kidneys firm, large, darkly congested, capsules readily separable.

Case 10.—C. H—, male, æt. 24. (Dr. Stone.) Has always had good health, with the exception of an attack of intermittent fever in India last year. During last three weeks has suffered with cough; four days ago seized with sudden pain on right side, increased by coughing or deep inspiration. During the whole three weeks has been

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troubled by shortness of breath and feeling of weariness. Four days ago expectorated a teaspoonful of dark blood. Profuse expectoration and night sweats.

*On admission* (December 6th, 1883).—Well-nourished, well-built man, complaining of violent cutting pain in right side. Dulness over left base extending up to scapula posteriorly, to fifth rib anteriorly. Absence of vocal fremitus, and decrease of vocal resonance and breath-sounds. No ægophony or tubular sounds, expiration prolonged throughout, harsh posteriorly. On deep inspiration slight rub audible at base posteriorly, with scanty sharp crackling sound. Girth of two sides equal. Left side of chest normal. Cardiac area normal, also heart-sounds. Pulse 96, bounding. Troublesome convulsive, hacking cough. Liver and spleen normal. Tongue moist, covered with white fur. Urine dark coloured, 1026, no albumen. Temp. 104°, resp. 24.

December 7th.—Feels weak; temp. 103°, pulse 84, resp. 30. Tongue furred and dry, bowels open. Complains of great heat and dryness of throat. Abundant expectoration streaked with blood.

8th.—Harsh rubbing at right base up to fourth rib anteriorly, dulness extends up to mid-scapula; no friction at extreme base.

10th.—Soft systolic cardiac murmur in fifth space one inch outside nipple audible last few days. No rubbing at extreme base on right side, but faint breath-sounds, lessened vocal resonance and dulness; rubbing just below angle of scapula. Girth: Right side 17 inches, left 16½ inches.

During the next eleven days signs varied somewhat in distribution, but on the 21st dulness extended half an inch beyond the left edge of the sternum, heart's apex beating one inch to left of nipple. Girth: Right side 18, left 17 inches. On this day (December 21st) tapped, and seventy-one ounces clear serum drawn off. After this breath-sounds were still weak anteriorly, but the signs posteriorly were almost normal. Girth: 17 inches both sides.

26th.—Improvement continued till to-day, some streaking of sputa with blood on 24th. To-day rigor; temperature rose to 104·8°.

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27th.—Aspiration repeated, twenty-four ounces tawny-coloured serum drawn ofi. After this dulness nowhere complete, vocal resonance and breath-sounds somewhat increased. Patient has had a rigor at noon each day since the 25th.

January 17th.—Signs have varied, rigors have persisted, temperature often up to 103°, rarely falling to normal. Spleen noted as half an inch below ribs on 5th. Right lung: Dulness at apex, extending to second rib; below this tympanitic resonance reaching two inches to right of sternum and as low as seventh rib. Complete dulness posteriorly and laterally. Vocal resonance diminished, somewhat ægophonic. Breath-sounds cavernous; heart's apex one inch to left of nipple line. Girth equal on the two sides.

21st.—Aspiration, twenty-nine ounces pus; no alteration in cardiac apex.

23rd.—Ether. Excision of one inch of seventh rib in post-axillary line. Evacuation of 105 ounces of pus; dressed with eucalyptus gauze. No lung could be felt with finger at operation; signs were much as on 17th, but line of tympanitic resonance anteriorly varied considerably with position. During evening dressing renewed; it contained bloody serum, and about four ounces escaped from cavity when uncovered. Temp. 100°, pulse 100, resp. 20.

26th.—Comfortable. Dressed daily, sweet; tongue clean; bowels open; appetite fair; sleeps. Temperature this evening 101°, pulse 100, resp. 20. Temperature was 103° this afternoon.

February 7th.—Much improved. Urine clear, acid, sp. gr. 1018, no albumen. No signs to be detected in left lung, which has remained unaffected during patient's whole illness.

19th.—Temperature does not rise above 100°. Discharge sweet, about three ounces daily. Varies, but feels better on the whole; does not gain flesh; looks sallow and emaciated. Cavity seems contracting; chest wall falling in. Right side one inch less in circumference than left. Heart's apex drawn to right, beats one and a half inches to left of sternum; left lung normal. No upward displacement of liver.

During March and April the patient varied little, the only

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point of importance being the occurrence of crepitation both at base and apex on left side.

May 8th.—Somewhat improved in general appearance; still decidedly sallow and has not put on flesh. Temperature has been somewhat higher of late. Tongue moist with white fur; appetite very variable; yesterday he was sick. Bowels regular. Girth of chest: Right 15, left 16¼. Considerable amount of antero-lateral flattening on right side; shoulders level; lateral curvature almost nil. Wound granulating healthily; still about four ounces brownish-coloured pus daily, sweet. Wound dressed with iodoform, and syringed with salicylic lotion.

Right side of chest resonant except at extreme apex, where there is comparative dulness. Breath-sounds amphoric over whole side. Vocal fremitus and resonance as on left side. Parietes almost motionless. Liver dulness extends up to sixth rib. Heart's apex in normal position.

Left side hyper-distended, moves freely, resonant throughout. Breath-sounds exaggerated, below angle of scapula pleural friction, rhonchi and crepitation at base; apex normal. Urine contains a trace of albumen.

Patient discharged later with an open fistula.

Case 11.—G. R—, male, æt. 20. (Dr. Stone.) Good family history. Two attacks of rheumatic fever. Scarlet fever.

Was admitted suffering with typhoid fever on January 28th, 1884.

On February 11th an abscess noticed in right loin, opened on March 5th. This relieved him, but on March 13th dulness front and back was noted on right side of chest with tubular respiration. A few days later heart became displaced to outside left nipple.

March 19th.—Tapped, forty-three ounces of pale, clear, greenish fluid withdrawn; he improved, but fluid reaccumulated, and on the 26th the tapping was repeated and twenty-four ounces drawn off.

On April 9th a fresh accumulation of pus was noted in right loin; this opened spontaneously and some ounces were discharged. His temperature continued high, and on April 12th he was again tapped, and this time thirty ounces of pus withdrawn.

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April 22nd.—The fluid in the right pleura has reaccumulated, dulness extends over nearly the whole back, but there is resonance to third space anteriorly. Vocal fremitus absent, ægophony; heart's apex displaced downwards and outwards. Patient looks pale and is rather feeble. Temp. reached 105·2° yesterday. Takes nourishment fairly.

Chloroform. Excision of one inch of sixth rib in post-axillary line; thirty-five ounces of pus evacuated. The cavity was large and the finger could not reach lung. Discharging sinus still existing in right loin, no communication made out. Eucalyptus dressing.

23rd.—Slept well, complaining of no pain; breathing easily; no expectoration. Dressed; discharge moderate in amount.

29th.—Temperature normal since operation. Eats, drinks, and sleeps well, looking very much improved. No cough, pain, or expectoration. Dressed daily with eucalyptus.

May 8th.—Very decidedly improved, gaining strength and flesh. Temperature continues normal. Tongue clean, bowels regular, appetite good, sleeps well. Still dressed with eucalyptus gauze, dressing changed daily; about one ounce runs out of cavity when old dressing is removed. Wound healthy. No discharge from sinus in loin. Girth: Right side 15½, left 16 inches.

Right side resonant anteriorly; breath-sounds very feeble; vocal resonance and fremitus normal. Lower third of back dull; breath-sounds feeble, absent at extreme base. Vocal resonance and fremitus diminished below wound, above equal to that on other side. Liver reaches sixth rib.

Left side normal. Apex of heart nearly one inch to left of nipple. Systolic murmur at apex (? old cardiac mischief); heart enlarged, not displaced.

Wound continued to discharge slightly till July 3rd then closed definitely.

October 13th, 1885.—In very good general health, slight cough, no expectoration. Pain in left side on exertion, referrible to mitral disease; loud systolic murmur; chest looks almost normal; no spinal curve. Girth: Right side 16½, left 17 inches. Resonance throughout. Breath-sounds and vocal resonance and fremitus normal. Gap in rib filled up.

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Case 12.—C. W. B—, male, æt. 23. (Dr. Bristowe.) Family history good, and has always enjoyed good health himself prior to present illness.

One month ago taken with severe pain in flanks, sufficient to keep him awake at nights; the right side improved in a few days, but the pain in the left increased. Pain was aggravated by breathing, he was short of breath, but had no cough at first. Pain less for last week, but has had cough and expectoration.

*On admission* (February 3rd, 1885).—Pale man, complains of pain in left side, cough, shortness of breath, and fever. Temp. 101·2°; skin moist. Dulness over lower two thirds of left lung posteriorly; breath-sounds absent over lower third, no tubular sounds, vocal resonance and fremitus absent throughout. Hyper-resonance at left apex anteriorly; dulness extends up to fourth rib in front when patient sits up; respiratory sounds and vocal resonance and fremitus diminished. The intercostal spaces bulge and the side moves little. Right side normal. Girth: Right side 15½, left 15¾. Area of cardiac pulsation increased, extending up to fourth interspace in nipple line. Apex beat apparently behind sternum, cardiac sounds loudest to right of sternum. No murmur. Pulsation in epigastrium. Pulse 100. Abdomen normal. Tongue furred; bowels open. Urine 1035, acid, trace of albumen.

February 5th.—No pain when lying on back and breathing easily, cough worse, kept him awake last night. Appetite good, tongue clean. Pulse 112, resp. 32, temp. 101°. Urine, no albumen.

6th.—Not much change, dulness at left base less absolute, extends up to lower angle of scapula, vocal resonance, and fremitus at apex behind. Breath-sounds audible over upper two thirds. Heart's position unchanged since admission. Tapped, five ounces of blood-tinged pus withdrawn. Temp. 100·2,° pulse 112. Tongue fairly clean. Very little change occurred during the next week, the temperature ranging from 99°-100.°

12th.—One inch of seventh left rib excised subperiosteally in post-axillary line, a large quantity of coffee-tinted pus evacuated, containing large masses of blood-clot covered

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with recent lymph (? result of tapping). Lung could be reached with finger and moved with respiration.

13th.—Slept well. Temp. normal, pulse 116. Urine 1030, clear, acid, no albumen. No dyspnœa, cough less, a little mucous expectoration.

18th.—Progress uninterruptedly satisfactory. Sleeps and eats well. Temp. normal, resp. 16, pulse 92. Left half of chest still moves little, resonance impaired at base, but no absolute dulness, vocal resonance and fremitus throughout. Heart-sounds still most distinct to right of sternum.

Patient continued to progress steadily till March 25th, when the tube was removed; the heart was noted to have regained its normal position on March 17th. Wound closed on April 1st, and the physical signs on the left side were nearly normal at that date. Left the hospital on April 5th.

Case 13.—F. S—, male, æt. 25. (Dr. Stone.) Family history good. Previous history good. Three days before admission patient was taken with a shivering fit, headache, dryness of mouth and thirst. He coughed and expectorated bloody sputa. Severe pain down left side, worse on coughing or on taking a deep breath.

*On admission* (February 9th, 1885).—Signs of pneumonia at left base, but except an ægophonic twang of voice no signs of fluid detected. His symptoms were severe, and he continued very ill, the temperature ranging up to 104° and 104·6°, and on the third day after admission the following signs are noted: Temp. 104·6°, pulse 138, resp. 40. More restless, less pain. Complete dulness over left back, with tubular respiration and crepitus, absolute dulness at base, with absence of vocal resonance and crepitus. Anteriorly crepitus and comparative dulness. Patient improved in general condition after this date, the temperature reaching 100°, and the pulse falling to 98 and 100.

February 27th.—Temp. 100·2°. Viscid sputum streaked with black. Complete dulness and loss of vocal resonance and fremitus to third rib in front, breath harsh and feeble at upper limit. Signs of fluid posteriorly reach up to mid-scapula. In mid-dorsal region, tubular respiration, and much

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coarse clicking crepitation. Whispering pectoriloquy. Heart's apex displaced beneath sternum.

March 6th.—Patient's condition much the same, rather feeble, temperature reaching 100° and 101°, pulse 112. Tapped in sixth left interspace, and eight ounces of laudable pus withdrawn.

7th.—Temp. 100°, pulse 126, resp. 36. Signs of fluid behind reaching as high as spine of scapula; the intercostal spaces are obliterated. Heart reaches two inches to right of sternum.

13th.—No change in physical signs. Chloroform. Excision of one inch of left sixth rib sub-periosteally in post-axillary line. Forty ounces of pus and white fibrinous clots evacuated. Bichloride lotion and pine-wood bag dressing; very collapsed after operation.

14th.—Feels very weak. Slept badly. Temp. 97·6°, has been down to 96° during night. Pulse 96.

May 8th.—Has progressed steadily but slowly. The tube has had to be lengthened twice after being shortened in consequence of rises of temperature due to retention of pus. There is now very slight discharge, and the tube has been removed for good. Up for two hours. There is resonance throughout on the left side, but not so complete as on right. Heart in normal position. Considerable antero-lateral falling in of chest.

October 15th, 1885.—Contraction of chest scarcely appreciable. Breath-sounds normal. Gap in rib still extant. In excellent health, has given up baking trade, and become a labourer in Chatham Dockyard.

Case 14.—J. S—, male, æt. 34. (Dr. Harley.) Family history good, no previous illnesses. Six months ago got wet through and after that noticed cough, very troublesome at night; after a month he attended Dr. Semon's department for pain in his throat, and discontinued work. He did not improve, and after two months went into Wandsworth Infirmary. While there he was seized suddenly with pain in left chest and back, which has continued ever since with painful cough and dyspnœa. He has perspired much, and lost flesh rapidly.

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*On admission* (April 11th, 1885).—Somewhat emaciated, otherwise healthy-looking, complains of cough and dyspnœa with inability to lie on the right side.

Left side moves imperfectly, intercostal spaces bulge below fourth rib; complete dulness over this area; heightened tympanitic resonance at apex anteriorly. Dulness extends three quarters of an inch to right of sternum. Vocal resonance much diminished and fremitus absent over whole left side. Breath-sounds very feeble, tubular above level of fourth rib. Whispering pectoriloquy over whole left side, no bruit d'airain.

Right side: Some impairment of resonance at right apex, breathing tubular in character. Occasional crepitation over whole lung, most numerous at apex. Expiration rather harsh and prolonged generally. Girth: right side of chest half an inch greater than left. Heart pushed over to right of sternum, diffused pulsation in fourth and fifth spaces near sternum. No murmur. Abdomen natural, no displacement of liver or spleen. Tips of fingers clubbed. Tongue dry, no fur. Bowels open; temp. 101°. Urine 1015, very faintly alkaline, no albumen.

Left pleura aspirated in sixth space behind mid-axillary line. Fifty-six ounces of dirty turbid serum evacuated.

13th.—Temperature rose to 103° at 4 a.m., now 100° (noon). Fairly comfortable night, breathes more easily and can lie on right side. Resonance over left side except at lower one sixth. Cardiac dulness commences one inch to right of sternum, and extends to left border of sternum.

Condition did not materially alter, but some subcutaneous emphysema was noted after tapping.

20th.—Well-marked metallic tinkling and bruit d'airain.

24th.—Heart still entirely to right of sternum, no murmur heard, sounds most audible just below fifth rib, one inch internal to right nipple. Dulness below lower border of left fifth rib, and over lower one sixth of back. Resonance tympanitic over rest of lung except at apex; here impaired. Breath-sounds still extremely feeble over front of chest. No vocal fremitus, vocal resonance much diminished. Metallic tinkling, bruit d'airain, and well-marked succussion audible. Occasional rhonchus with inspiration. Breath-

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sounds just audible posteriorly, strongest at extreme base. Comparative dulness over right side, most marked at apex; crepitation at apex, increased vocal resonance. Respiration; not so harsh as on admission. Temp. 103°.

May 4th.—Not much change, has suffered a good deal with diarrhœa and sweats. Since the morning has been expectorating pus freely (twenty-five ounces in twenty-four hours).

6th.—Much thinner. Temp. 98·4°, lowest since admission. No vocal fremitus on left side, vocal resonance feeble, no respiratory sounds, resonance not so tympanitic. Rhonchi and crepitations throughout, on right side impaired resonance and increased voice-sounds anteriorly. Heart's position unchanged. Girth: Right side 16½, left 16¾. Continues to expectorate muco-purulent matter.

Patient's condition gradually became worse, but no very material alteration occurred in the physical signs, and on May 19th chloroform was administered and one inch of the left sixth rib removed sub-periosteally. 100 to 120 ounces of offensive pus evacuated. Cavity washed out with 1 to 1000 perchloride of mercury solution, and pine-wood bags employed as a dressing. A syncopic attack soon after operation. Wound redressed during evening; very large amount of discharge.

20th.—Slept badly. Temp. normal. Cough rather troublesome.

During the next week progress unsatisfactory, the discharge remained offensive and abundant; the patient complained of pain in the side, also in his head. Temperature often rising above 100°.

25th.—Temp. 102·2°, pulse 132, weak and irregular.

27th.—Much weaker, temp. 100·4°, pulse 120. Complaining much of headache; drowsy.

29th.—About half an hour after dressing very drowsy, semi-unconscious, passed water in bed. He continued in this state for about three hours. Temp. 100°. Bowels open. Passes very little urine.

30th.—Patient in much the same condition as yesterday. Urine passed in bed. No albumen in a specimen saved.

June 1st.—Temp. 99·8°. Delirious. Slept badly.

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2nd.—Became unconscious last evening and has remained so since; does not recognise wife or friends, lies on his back with open mouth and eyes half closed. Is restless with his hands; resp. 70, pulse 104, full; no paralysis. Urine scanty, acid, dark coloured, no albumen. Coughs occasionally, no expectoration.

3rd.—Slept several hours, at times delirious, unconscious this morning, but not so vacuous looking. Wound dressed; discharge thick, putrid. Takes nourishment. Temp. 99°.

4th.—Worse, quite unconscious, breathing noisily. Resp. 64, pulse 138, weak; temp. 99°.

Died in evening. No post-mortem examination allowed.

Case 15.—M. A. S—, æt. 23, female. (Dr. Bristowe.) Mother died of consumption, father from rupture of a blood-vessel. Six years ago attended at Chelsea Hospital for Women suffering from cough, slight expectoration, and loss of flesh; she got well in two or three months and has since enjoyed good health. Ten months ago noticed she was losing flesh, and about eight months ago had some severe shivering fits and perspired profusely at night. She felt very ill and noticed a swelling about the size of a hen's egg just below the right breast. Six months ago cough, expectoration, and pain in the chest again began to worry her. The swelling steadily increased in size, and four months ago it was opened and about a quart of sweet pus evacuated; since then there has been a constant discharge. Since the opening of the swelling all expectoration has ceased.

*On admission* (June 29th, 1885).—Pale girl, temp. 97·8.° Dulness over whole right lung; breath-sounds generally diminished, almost completely absent at base. Vocal fremitus absent at base, whispering pectoriloquy over nearly whole lung. Right side of chest contracted, falling in in antero-lateral region, three quarters of an inch less in girth than left. No spinal curvature. Discharging sinus just below and external to right breast. Left lung somewhat hyper-resonant, otherwise normal.

Cardiac dulness somewhat diminished in area. Apex beat normal. Pulse 90. Abdomen natural, bowels constipated. Urine acid; sp. gr. 1022; no albumen; abundant phosphates.

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July 3rd.—Chloroform. One inch of sixth rib resected sub-periosteally in post-axillary line, thirty-two ounces sweet pus evacuated. Bichloride of mercury lotion (1 to 1000) and pine-wood dressings.

4th.—Slept well. No cough or expectoration, no pain in side, but aching down spine. Temp. 97·4°; pulse 86, feeble.

On the 7th of July the temperature rose to 103·8,° and in the evening the rash of cutaneous erysipelas appeared over front of chest, spreading from the old wound. The wound continued to discharge freely and the attack lasted about one week.

23rd.—Feels quite well; no pain, cough, or expectoration. Free discharge from wound, five to six ounces daily. Temp. 97·4°, pulse 96. Appetite good, bowels regular. Dulness over right back below wound, and over this area there is no vocal fremitus. Breath-sounds diminished over whole lung, vocal resonance as on other side.

August 5th.—Improving. Sleeps well, appetite good. Tongue clean, bowels regular, temp. 97·4,° pulse 78, resp. 24; dressed twice daily; about five ounces pus.

21st.—Improving. Respiratory sounds at right base much stronger.

September 1st.—Not more than one ounce pus daily in dressings.

8th.—Tube shortened. Anterior sinus has healed.

29th.—Has steadily improved, only one inch of quarter-inch drainage-tube now left, about half an ounce of pus daily. Temp. 97·2°, pulse 72. No pain, cough, or expectoration. Urine normal.

She left the hospital on October 8th. On October 14th I saw her again, and the condition was as follows:—Tube still in, discharge nil (so tube removed). Comparative dulness over right back. Breath-sounds less distinct than on left side, otherwise normal. Side moving freely during respiration. Girth at nipple line 30 inches: right 13¾, left 16¼. Chest very considerably flattened anteriorly beneath clavicles and in lateral region. Sternum prominent, sloping away to right side. Considerable dorsal curvature. Looking strong and healthy and complaining of nothing.

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TABLE I.—*Non-tubercular and Doubtful Cases.*

| No. | Name. | No. of days in hospital. | Age and sex. | Side. | Length of illness. | No. of tappings previous to oper. | Pointing or fistula prior to operation. | Length of time elapsing before closure. | Chronic fistula. | Dressings used. | Abnormal callus. | Result. | Amount of pus evac. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | A. L. | 115 | M. 5½ | Left | 8 mos. | Four | Pointing | 15 weeks; 9 weeks later re-opened and remained discharging 5 weeks | No | Carbolic gauze; later iodoform | None | C. | 40 oz., sweet | — |
| 4 | F. R. | 22 and 21, with 4 days' interval =47 | M. 15 mos. | Right | 14 days ? | One | „ | 22 days; second abscess 20 days | No | Carbolic spray; eucalyptus gauze | — | C. | 6 oz. | Empyema secondary to fractured rib. No rib removed, but separation of ends of fractured rib (1½ inches) made case strictly analogous to one of resection. |
| 6 | G. W. | 131 | M. 13 | Left | 14 days | One | No | 93 days | No | Eucalyptus gauze and spray | — | C. | 70 oz., sweet | — |
| 7 | J. G. | 393 | M. 44 | „ | 42 days | Two | No | 313 days | No | „ | — | C. | 16 oz. | Case of pyæmia, with affection of hip- and knee-joints. |
| 9 | J. W. S. | 2 | M. 19 | Right | ? 4 or 5 weeks | One | No | — | — | Carbolic spray; eucalyptus gauze | — | D. | 135 oz., sweet | Acute empyema. Purulent pericarditis. |
| 11 | G. R. | 112 | M. 20 | „ | 40 days | Two | No | 72 days | — | „ | None | C. | 35 oz., sweet | Typhoid fever. |
| 12 | C. W. B. | 61 | M. 23 | Left | 30 days | One | No | 50 days | No | Bichloride of mercury lotion (1—1000); pine-wood bag | — | C. | No record | — |
| 13 | F. S. | 57 | M. 25 | „ | 32 days | One | No | 30 days | No | „ | — | C. | 4 oz., sweet | Following acute pleuro-pneumonia. |

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| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | M. A. S. | 101 | F. 23 | Right | 8 mos. | — | Opened spontaneously 4 months prior to admission | 104 days | — | „ | — | C. | 32 oz. | Attack of erysipelas during course. |

TABLE II.—*Undoubtedly Tubercular Cases.*

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | P. B. | 118 | M. 5 | Left | 42 days ? | — | Pointed, and was incised just below left nipple | Unclosed | Yes | Carbolic spray; eucalyptus gauze | None | F. R. | 10 oz., sweet | Free hæmorrhage from granulations. Sinus persisting. |
| 3 | J. R. | 101 | M. 5 | „ | 21 days | One | — | 85 days | — | Carbolic spray; eucalyptus gauze; iodoform | „ | C. | 30 oz, sweet | Chest has remained healed. Tubercular disease of metacarpo-phalangeal joint of thumb. |
| 4 | R. J. J. | 104 | M. 31 | Right | 126 days | One | — | — | Yes | — | „ | R. | 6 oz., sweet | Does his daily work as a clerk without discomfort. |
| 8 | W. F. | 115 | M. 58 | „ | 30 days | One | — | — | — | Carbolic spray; eucalyptus gauze | „ | D. | 15 oz., stinking | Localised cavity. |
| 10 | C. H. | 1 year and 9 mos. | M. 24 | „ | 38 days | Three | — | — | Yes | „ | „ | F. R. | 105 oz., sweet | Chronic fistula. Occasional albuminuria. No marked enlargement of liver. |
| 14 | J. S. | 33 | M. 34 | Left | 60 days ? | One | — | — | — | Bichloride of mercury (1—1000); pine-wood bags | „ | D. | 100—120 oz., stinking | No post-mortem examination. Headache, drowsiness, and death. ? Cerebral complication. |

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As a pendant to the cases I have drawn up Tables I and II to exhibit a few points which seem of importance. I have thought it better to separate the six cases in Table II because as undoubtedly tubercular cases they possess distinct characteristics as to healing and offer results in no way comparable to those to be obtained where no tubercular taint exists.

Table I contains nine cases, with one death and eight perfect successes. The patients, with one exception, were all below twenty-five years of age; five were on the left, four on the right; they were all males except one. The average duration of stay in hospital was 113 days, while 100 days was the average period prior to definite healing. These numbers are much increased by Case No. 7, the patient already adverted to as being over twenty-five years of age, and although on the other hand they are lowered by Case 9, which died on the second day, still we find if these two cases are subtracted the average stay in hospital amounts to only seventy-five days, and the time of healing eighty-five days. (The latter number is increased by Case 1, who left the hospital, healed, for nine weeks and then returned with a spontaneous opening, these nine weeks being for the sake of the statistics treated as if passed in hospital.)

The influence of deferring the operation is well illustrated in Cases 1 and 15, in both of which eight months had elapsed prior to operation; in Case 15 the result was much better than in Case 1, from the fact that very considerable contraction had occurred before the operation. It will be noted that in every case one or more aspirations proved useless; the only two cases not tapped had opened spontaneously. The four cases in children have not been separated, as has often been done in commenting on this operation, as these and other published cases seem to show that no harm accrues from the removal of rib, while it is difficult to doubt that the more efficient drainage provided is a definite advantage. In no case did any abnormal callus interfere with the introduction of the tube, and I think this must be regarded as a rare complication. In the cases done one year and upwards ago there is only a normal union of the resected rib. As to the causation of these nine cases. One was traumatic, one pyæmic, one a sequela of

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acute pleuro-pneumonia, another of enteric fever. Case 9 in many respects resembled a case of pyæmia although no distinct primary source of infection existed; for the other four cases no cause could be assigned, and they are included in this table because no other signs of tuberculosis existed, although of course the probability of their being tubercular in nature is great.

In Table 2 are six undoubtedly tubercular cases; and here, as would be expected, the numbers are strikingly bad. In such cases the healing of a wound lined by tubercular granulations is no more to be looked for than in cases of joint-disease or psoas abscess. The average stay in hospital here amounts to 185 days. In one case permanent closure occurred at the average three months, but of the other five two died, and three are still alive with discharging fistulæ. Case 4, however, was notably benefited by the operation and now looks fat and well and is doing his work.

One or two points struck me with regard to the deformity left after the healing of the cavities, only in two cases was there any marked spinal curvature, Nos. 4 and 15, both extremely chronic cases, the principal change in shape of the chest being in falling in below the clavicle, and flattening of the lower part of the chest anteriorly and laterally. The sternum as a result projects abnormally, sloping down rapidly to the affected side, while in the young patients on the unaffected side the anterior part of the chest seemed actually somewhat extra-prominent. Another point which struck me was the small part taken by rising of the liver in the filling up of the right side, in no case did the hepatic dulness extend higher than the sixth rib. The chest being flattened below the right nipple, this contraction probably preventing the rise.

As to the operation itself no special points seem prominent, the experience of these cases would lead me to choose the sixth or seventh rib in the posterior axillary line as the best spot. In Case 2 a good example exists of the free hæmorrhage from granulation sometimes occurring when the cavity is explored with the finger, while Case 12 is an instance of the hæmorrhage which may sometimes follow paracentesis. One other point, that of the choice of an



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anæsthetic, may be alluded to. In my opinion chloroform is much to be preferred in these cases, both on account of the unsatisfactory nature of the respiration, and the fact that the patients are usually most unsuitable ones to run the risk of the irritation consequent on the inhalation of ether.

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# EPILEPSY.

By JOHN HARLEY, M.D.

The following pages contain a review of the cases, about 300 in number, which, with one or two exceptions, came under my care in the out-patient department of our hospital between the years 1871 and 1879 inclusively; the period of my connection with that department.

I have contented myself with following the broad outlines of the disease, but these are so extensive that, even with this limitation, I have compassed only a part of my vast subject. Still I hope I have done enough on the present occasion to form an introduction to a more complete survey which I propose to contribute to the next volume of our reports.

I commence with a tabulated view of my cases showing the liability of age and sex to the disease.

| Age when the first fit occurred. | Number of cases. | |
|---|---|---|
| | Males. | Females. |
| Within the 1st year | 5 | 5 |
| Between the 1st and 2nd year | 9 | 6 |
| At the 2nd year | 0 | 2 |
| „ 3rd „ | 1 | 0 |
| „ 4th „ | 3 | 1 |
| „ 5th „ | 1 | 1 |
| „ 7th „ | 5 | 4 |
| „ 8th „ | 5 | 2 |
| „ 9th „ | 2 | 3 |
| „ 10th „ | 2 | 3 |
| „ 11th „ | 2 | 2 |
| At the 12th year | 7 | 2 |
| „ 13th „ | 2 | 8 |
| „ 14th „ | 2 | 7 |
| „ 15th „ | 2 | 4 |
| „ 16th „ | 6 | 11 |
| „ 17th „ | 4 | 9 |
| „ 18th „ | 7 | 5 |
| „ 19th „ | 3 | 9 |
| „ 20th „ | 4 | 3 |
| „ 21st „ | 4 | 4 |
| „ 22nd „ | 2 | 3 |
| „ 23rd „ | 4 | 1 |

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| Age when the first fit occurred. | Number of cases. Males. | Females. |
|---|---|---|
| At the 24th year ..... | 4 ... | 3 |
| „ 25th „ ..... | 0 ... | 3 |
| „ 26th „ ..... | 6 ... | 2 |
| „ 27th „ ..... | 2 ... | 2 |
| „ 28th „ ..... | 3 ... | 2 |
| „ 29th „ ..... | 1 ... | 4 |
| „ 30th „ ..... | 2 ... | 3 |
| „ 31st „ ..... | 3 ... | 1 |
| „ 32nd „ ..... | 1 ... | 0 |
| „ 33rd „ ..... | 1 ... | 2 |
| „ 34th „ ..... | 3 ... | 1 |
| „ 36th „ ..... | 1 ... | 0 |
| „ 37th „ ..... | 1 ... | 0 |
| „ 38th „ ..... | 2 ... | 2 |
| „ 39th „ ..... | 1 ... | 0 |
| „ 40th „ ..... | 1 ... | 2 |
| „ 41st „ ..... | 1 ... | 2 |
| At the 42nd year ..... | 1 ... | 0 |
| „ 44th „ ..... | 2 ... | 2 |
| „ 46th „ ..... | 0 ... | 2 |
| „ 47th „ ..... | 1 ... | 1 |
| „ 48th „ ..... | 1 ... | 3 |
| „ 49th „ ..... | 3 ... | 1 |
| „ 50th „ ..... | 1 ... | 1 |
| „ 52nd „ ..... | 1 ... | 1 |
| „ 54th „ ..... | 1 ... | 0 |
| „ 55th „ ..... | 0 ... | 1 |
| „ 58th „ ..... | 1 ... | 0 |
| „ 59th „ ..... | 0 ... | 1 |
| „ 62nd „ ..... | 2 ... | 0 |
| „ 66th „ ..... | 2 ... | 0 |
| Undetermined ..... | 15 ... | 23 |
| Total..... | 146 | 160 |

The broad facts which appear on a general view of this table, are as follows :

1. That epilepsy is essentially a disease of early life.

2. That the period of adolescence is more prone to epilepsy than any other.

3. That this proneness of the adolescent period is much greater in females than in males.

4. That during the prime of life (from 26 to 50) the liability is less than half that of the adolescent period.

5. That after the age of 50 the liability still more rapidly declines, but in the case of males shows a tendency to rise after the age of 60.

But the table deserves, and will I think repay a much closer analysis. I will begin with a consideration of what might be termed the intrinsical inducements of epilepsy.

The critical periods are well known to be those when epilepsy is most prevalent. This fact is well illustrated by the present table, thus :

| | Males. | Females. |
|---|---|---|
| 1st dentition (between 6 months and the 2nd year . | 14 ... | 13 |
| 2nd „ ( „ 6th and 12th year, inclusively) . | 23 ... | 16 |
| Adolescence ( „ 13th and 20th „ „ ) . | 30 ... | 56 |
| | 67 | 83 |
| „ „ 21st and 25th „ „ ) . | 14 | 14 |
| | 81 | 100 |

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It appears from those numbers that of those cases in which the time of invasion was ascertained, more than half of the whole occurred before the age of 21; the proportion rising in females to 60 per cent. If the period of adolescence be carried to its full limit, viz. 25 years, the numbers will be 81 males and 100 females; or 61 per cent. of the former and 73 per cent. of the latter.[1]

During the full vigour of life and the commencement of its decline—that is, from 26 to 50 years of age—there are 38 males = 29 per cent., and 33 females = 24 per cent. Beyond this age there are only 3 cases in the females, and 7 in the males, the most advanced age in the former being 59, and in the latter 66.

The influence of advanced age upon the disease appears to be opposite in the sexes. In women it decreases with the decline of the sexual function, but in men the reverse is the case, and the explanation is not difficult. The exercise of the sexual function in men is voluntary, and in advanced life may be undertaken when the desire is in excess of the power. The undue strain to which the nervous system is thus subjected is undoubtedly provocative of the epileptic condition. The numbers having reference to this matter contained in the above table are of themselves too few to furnish sufficient data, but so far as they go, they bear out the view which I have stated.

It may be now interesting to ascertain the comparative amount of resistance to a repetition of the epileptic attacks as exhibited by the sexes. Some information upon this topic may, I think, be extracted from the table, thus:

1. *Of the male patients*, there were 84 in whom the disease was of recent development, *i. e.* had not existed, in any case so far as could be ascertained, for longer than a year,—*recent cases*, for the sake of distinction, I will call them; and 62 *chronic cases*.

*Of the female patients* there were 111 recent and 50 chronic cases.

2. In the males the fits recurred at frequent intervals, rarely so long as two months, and in no case longer than nine months, in 45 cases—*continuous cases*, as I may call

[1] The unascertained cases are too few to appreciably affect these numbers.

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them. In 17 other cases the disease was interrupted by a longer interval than nine months—*interrupted cases* I will call these. Thus in one case the whole history of the disease was marked by an interval of one year, in a second by an interval of two years, in a third of three years, in a fourth by two clear intervals each of four years' duration. In the fifth and sixth case there was an interval of five years, in the seventh two intervals of six and eight years; in the eighth by three long intervals of eight and a half years, eighteen years, and five years. The next 7 cases presented intervals of ten, thirteen, fourteen, sixteen, eighteen and a half, nineteen and twenty years respectively, and the 17th and last case had intervals of freedom of twenty-six and fourteen years.

In the females there were 39 *continuous* cases, according to the above limitations, and 11 *interrupted ones;* the intervals of freedom in these being one, two and a half, three, four, two intervals of four and one, five, six, seven, eight and a half, ten, and eleven years respectively.

Reduced to percentages, and using the slightly unequal totals of 146 males and 160 females, the results appear as follows:

| | | | |
|---|---|---|---|
| Males, recent cases | 57·5; | chronic cases | 42·4 |
| Females „ | 68·9 | „ | 31 |
| Males, continuous cases | 30·8; | interrupted cases | 11·6 |
| Females „ „ | 24·2 | „ „ | 6·8 |

The main facts thus arrived at are that: (1) chronic epilepsy is more common in men; (2) the attacks in males are more frequently interrupted by long quiescent intervals; and (3) these intervals are very much longer in males than in females.

The first of these differences may reasonably be attributed to the greater and more numerous extrinsical disturbances to which the male sex is exposed, and the second and third to the greater intrinsical disturbances incidental to the female sex.

Leaving now the statistical inquiry, I will examine a few of the more interesting matters suggested by the cases which I have tabulated, using them at the same time for illustration, and I will introduce this portion of my inquiry with the statement of a fact observable in almost every case of epi-

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lepsy, namely, that a patient having once experienced a fit is liable, after a shorter or longer interval, to a recurrence; a solitary epileptic fit in the life of an individual is rare (*Ex.* 3).

There are two main causes for this, first, the general nervous instability or irritability which predisposes to convulsive action; second, the *impression* left by an attack. It would appear that the nervous system having been once involved in convulsive action rarely, perhaps never, forgets it, but is more apt than before to fall into this irregularity. In most cases these two causes probably coexist and intensify the tendency to morbid action.

A repetition of nervous action, no matter whether it be of the ear and fingers in the acquisition of music, or of the morbid actions of an epileptic fit, results in acquired tendencies of the same kind, which under favorable circumstances ripen into "instinct" and "hereditary tendency," transmissible to offspring.

This law of nervous action must be regarded both in the history and in the treatment of epilepsy.

In reference to history we find that a considerable number of epileptics derive their tendency from their parents; and in respect of treatment it may be safely stated that the longer we can postpone an attack the less is the liability to a recurrence, and *vice versâ*. A large proportion of epileptic cases show this recurrence at critical periods, and the attacks become so habitually associated with them that it is difficult and often impossible to break the connection.

Epilepsy exhibits an endless variety of phases. It ramifies into every region of nerve disorder and claims a relationship all round. In this case it seizes the body or some portion of it with an irresistible cramp, quietly and silently curving it this way or that. But more commonly the fit descends like a swollen mountain torrent, and the muscles, voluntary and involuntary, are thrown into uncontrollable convulsion. In one patient the skin is pale from insufficient action of the heart; in another, the heart beats almost to bursting, the distended vessels actually give way, and the patient comes out of the fit everywhere mottled with blood spots.

In this case the sensation is mainly affected; in that the

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intellect. One patient, though shaken by the fit, is clear and able at once to resume his ordinary duties; another is oppressed for hours or days with sleep, torpor, or insanity, or a mixture of these.

In no inconsiderable number of cases, a weakness or absolute palsy of one side of the body accompanies the torpid state, and we cannot possibly distinguish the condition from that of apoplexy. In other cases the nerve storm is expended upon particular nerve centres, the consciousness being but slightly affected in the fit, and the patient is permanently crippled in a limb.

Sometimes the attack reduces the mind to a momentary blank with scarcely a visible effect of its occult influence, and, but for a variation in his surroundings, the patient himself scarcely knows of his mental eclipse.

Abundant illustration of these statements will be found amongst the following cases:

*Imitation and fright.*—The *sight* of an epileptic fit is sufficient to induce the disease in a sympathetic temperament.

*Ex.* 1.—Margaret M—, æt. 17, a well-nourished, strong young woman in whom all the functions were normal, was taken with a succession of epileptic fits in consequence of having witnessed a fit in the person of another young woman with whom she was sleeping. Having fallen downstairs in one of these fits she was admitted into Guy's Hospital about the latter end of 1873. After her discharge, the fits continuing, she came under my care. It is probable that the fits disappeared, for the patient soon left off attendance.

*Ex.* 1 *bis.*—An old friend and patient, a gentleman now in his fiftieth year—fair, and of sanguine and nervous temperament, and whose ailments have always been of a nervous character, and notably a prolonged attack of gastric pains from spasmodic contraction of the pylorus—he told me that he had when a youth an epileptic fit as an immediate consequence of seeing a lad of similar age suddenly taken with a fit in the office. My friend was unconscious and bit his tongue. This was the only attack he ever had.

Is it *fright* or *imitation* in these cases? I have no hesita-

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tion in concluding that it is in most cases the former. But why may we not conclude that all have their origin in fright? The answer is obvious and satisfactory—who, for example, can resist the infection of a yawn? And if the will is insufficient to suppress a placid contraction of the diaphragm, how easily may choreic or epileptic movements reproduce their kind when the will—as must be the case in imitative epilepsy—is altogether in abeyance?

We must admit, therefore, that epilepsy may result from mere imitation.

That fright alone will produce it is a fact expressed in the household words "frightened into fits."

*Ex.* 2.—I once saw an instance of this. I was summoned to a gentleman who deliberately cut his throat and died instantly before a company of people in the house of a friend with whom he was staying. The hostess, a strong woman, about forty years of age, met me at the door, and we entered the room together. Glancing at the tragic scene, the lady uttered a cry and fell down unconscious in one of the severest convulsions that I have ever witnessed. This was the first fit she ever had, and it is now thirty-five years since it occurred, and she has not had another.

As to prognosis, my general impression is that when epilepsy has been caused by fright it soon disappears, and perhaps, like the case just narrated, does not occur after the first fit. This, however, is not always so, as the following will show:

*Ex.* 3.—Alice L—, æt. 18, had a succession of three fits in consequence of fright; after the lapse of six months she had a fourth, and during the following six months six more. What was the further progress of the case I cannot say.

In the following case the epilepsy became continuous:

*Ex.* 4.—Charles E—, æt. 39, was frightened by seeing his bedfellow have a succession of four or five severe fits. He had a fit the same night, and they continued to recur up to the time when he came under my care—a period of eight or nine years.

The following may perhaps be attributed to fright:

*Ex.* 5.—William T—, æt. 16, lost a thumb by machinery, and the same night had three epileptic fits. They recurred

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about two months after the accident, previously to which he never had a fit.

*Passion* may be said to go half way in the production of both mania and epilepsy, and may be accepted, therefore, as a common cause of both.

*Ex.* 6.—Celeste M—, æt. 21, a very excitable person, had a few words with her sister, and this was followed by a severe epileptic fit typical in character. Three others had followed up to the time of her discharge.

*Consciousness preserved, partially or completely, during the fit.*

*Ex.* 7.—Sarah C—, æt. 58, has had very frequent attacks of the following kind for the last three years. The fit begins with shaking of the hands; she cannot speak, but retains consciousness and sits down; the face becomes red; occasionally there is partial loss of consciousness, but she never slips out of the chair.

*Ex.* 8.—Jane Mc K—, æt. 59, three months ago had an attack of numbness on the right side with loss of power in the right limbs lasting an hour. There was no loss of consciousness, but numbness and weakness of the right hand continues. Several similar attacks followed, and on one occasion she lost her voice for two hours.

*Ex.* 9.—Henry B—, æt. 15, has had fits of the following character for the last eight or nine months; he is taken night or day with clenching of hands, tremors, and turning to the right; loses articulate speech, but makes a crying noise; the head is drawn round to the right and fixed. Each fit lasts from four to thirty minutes, and some days he has a succession with intervals of an hour, during which he sleeps heavily with stertor. Consciousness is only lost in the severer fits. Alternate excitability and depression occur in the intervals between the fits.

*Ex.* 10.—Mary A. C—, æt. 32, the subject of severe epileptic fits for years, aggravated by menstruation. Only recently married, and this appears to have aggravated the epilepsy. The fits almost always occur at night and are attended by loss of consciousness. Latterly she has had in

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addition day-fits. "She does not fall, and loses her senses only for a moment, then with a start everything that she can remember comes into her head, all manner of people and things, and she is terribly frightened. She dreads these attacks far more than the severer ones, and they leave her very tired." These attacks last only a minute.

*Ex.* 11.—John O—, æt. 10, since birth has had a tendency to fall forwards, and during the last two weeks has fallen backwards fifty times and lain insensible for two or three minutes. Some days he falls a dozen times with momentary loss of consciousness; frontal headache is a prominent symptom. Once only had a convulsive fit, it occurred during dentition, and was attended by unconsciousness.

*Ex.* 12.—William J—, æt. 19, has had from early childhood giddiness and falling fits, without loss of consciousness, passing at the age of 19 into severe epileptic fits with loss of consciousness and severe convulsions.

*Suspension of consciousness without convulsion.*

*Ex.* 13.—Louisa T—, æt. 28, a healthy woman with three healthy children, with no hereditary tendency to nervous disorder, after marriage, at the age of 25, became the subject of the so-called *epileptic aura*, losing consciousness, but going on with her employment. She has continued to have two or three of these attacks every day for the last three years. The day before she saw me she was in a continuous attack most of the afternoon, got tea ready and washed her three children and put them to bed without knowing anything about it. She often does not know what she says. She has nursed her three children, each about nine months; the youngest is fourteen months old. All the functions are normally performed.

*Ex.* 14.—Robert M—, æt. 20, for the last two and a half years has had about two fits daily, they last about a minute. Onset sudden, can just slightly feel, but cannot speak or stop the fit, which comes on in the midst of his employment. He is suddenly seen to stop and smile, the hand is raised and the fingers jerked, the gaze fixed. In a few seconds he

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looks about him, meddles with anything that crosses his vision, whistles, and talks nonsense; then recovers his senses and volition and has no knowledge of what has happened to him. He has never fallen.

*Evanescent insanity as the immediate consequence of the fit.*

In some degree, and usually for a very brief period, this exists in a large proportion of cases. The cases are indeed exceptional in which the recovery is so complete as to allow of the immediate resumption of intellectual work. The nervous exhaustion is proportionate to the strength of the individual and to the duration and violence of the fit, and may be generally measured by the degree and extent of the somnolency which succeeds it. Where there is no great expenditure of nerve force, *i. e.* where the convulsive attack has been brief and of moderate severity, and the patient is strong and hearty, he may rise from it, feeling only a little tired and shaken. But a similar attack in a weakly person may leave him prostrate and somnolent for hours.

The sleep of the recovering patient is not the "balmy" sleep of health, but the torpor of intense cerebral exhaustion. It is like the sleep of apoplexy, often noisy with stertor and delirious mutterings. But this sleep unfortunately does not come to all, and the exhausted and disturbed brain remains awake to perverted and distressful feelings. The struggle which so lately convulsed the body is present to the mind, and in a waking dream the patient tries to carry on the conflict. Under these circumstances he is violent, resistful, and sometimes revengeful; in a word, he is a dangerous maniac.

In some degree this perverted state of the intellect exists I believe after every severe fit, but happily it is usually more or less completely masked by the sleep, and rendered impotent by the attendant exhaustion.

The following cases furnish illustrations of these statements.

Case 10 is also very interesting in reference to the mental condition, for in this instance the fit was not attended by

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loss of consciousness, and the intellectual disturbance stands alone—dissected, so to speak, from the ordinary complexities of a fit.

*Ex.* 15.—During the past summer I found an old epileptic patient, a powerfully developed young man, æt. 22, in one of my beds in the hospital. He had had a rapid succession of severe fits, and for some hours the nervous system manifested an exalted state of irritation, indicated by hyperæsthesia and spasmodic twitching passing occasionally into clonic convulsions. After these finally ceased he remained for three or four days completely unconscious, incapable of voluntary movement and deglutition, and passing his excretions involuntarily. He was supported by nutrient enemata and gradually recovered his consciousness by passing through a delirious stage in which he required much control. He then made a rapid recovery, and in ten days after the attack felt quite well and left the hospital.

*Ex.* 16.—William C—, æt. 37, a strong healthy man, was taken with fits at 5.30 a.m. while dressing; before 9 a.m. he had nine severe fits, and did not recover his consciousness until 5 p.m. A fortnight later he consulted me at the hospital, and on returning home was taken with fits, and these recurred at brief intervals during the next three days. In the intervals he was alternately violent and somnolent. The fits passed off but acute insanity remained, and he was taken to Brookwood Asylum. He was discharged after a fortnight, recovered. He returned to me after some months and remained under treatment for insomnia and headache, but there were no more fits up to the time of his discharge. This case was aggravated if not caused by alcohol.

### *Disordered sensation.*

An analysis of the disorders of sensation general, special, and intellectual, which precede, accompany (appreciable in some cases), and follow the epileptic attacks, would without doubt disclose some interesting and important relations of nerve action. On the present occasion I can offer but few instances. Few patients, indeed, are gifted with the ability

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to describe correctly the rapidly passing sensations which often give warning of the coming trouble, while those which accompany and follow the fit are usually eclipsed from their minds.

*Ex.* 17.—Anne P—, æt. 30, two last years epileptic, the fits being preceded by heaviness and numbness on one side, chiefly the left, or from the feet to the head, lasting five minutes. The disorder of sensation occasionally came on without being followed by a fit.

*Ex.* 18.—Isabella J—, æt. 30, married, has had two attacks of numbness of right foot running up the leg to the neck and head, lasting five minutes. Occasionally has a sensation of heat at the back of the head and over the eyes, and a disordered (diminished) sensation of the tongue. No loss of consciousness.

*Ex.* 19.—Amelia L—, æt. 49, had had a fit with loss of consciousness seven months before, and was paralysed of the left side for a month afterwards. Weakness of the left grasp still remained and she could not hold anything with certainty in the left hand, the thumb of which was drawn to the palm; the left side of the mouth was tucked up, and the tongue deviated to the right; the pupils were equal. She consulted me for attacks of numbness of the left side becoming very complete. One to four of these attacks would come on in the day. Occasionally there was working of the left arm, and she began to stutter and was obliged to lie down. Afterwards, whether the attack was of this nature or simply one of numbness, she was very drowsy.

*Ex.* 20.—Sarah A—, æt. 49, after being much troubled with vertigo for a year, had an epileptic fit. On recovering consciousness she felt as if something had "gone off" the side of her face, and she has had numbness of the left side for several days. Some twitching of the facial muscles on the left side remained, the tongue deviated to the left, and the limbs of this side were weak.

*Ex.* 21.—Sarah T—, æt. 52, has attacks of tremor. She also has attacks of numbness, beginning in the feet, ascending the limbs and body to the side of the face and head. She then falls, but does not lose consciousness.

In many cases a feeling of numbness overspreads the head.

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In others a sense of flushing runs upwards from the hand or foot to the side of the head.

Case 10 affords the only description of sensation during the fit which I am able to adduce from the present list.

### *Disorders of motion.*

*Ex.* 22.—Elizabeth P—, æt. 41, had slight epileptic fits during the last month, each lasts about fifteen minutes, beginning with defective speech and staggering, and is not attended with much convulsive movement. There is much heaviness and somnolency after the attacks, and the right arm is much weakened by them. The pupils are unequal, the left being the larger.

Usually there is complete paralysis on the oncome of the fit, the patient falls suddenly and often without the faintest warning. The following illustrates the earliest phase of this condition in the *petit mal.*

*Ex.* 23.—Mary C—, æt. 44, had had for the last three months two or three attacks of giddiness daily, during which she was obliged to hold on to any support to prevent falling. Consciousness was unimpaired. The left leg was a little weak.

This case will compare with that of Louisa T—, *Ex.* 13, in which consciousness was abolished, while co-ordinated and apparently voluntary motions remained.

Left hemiplegia appears to have been the result of an epileptic fit in two other cases, Amelia L— (the case is given under disorders of sensation, *Ex.* 19), and Sarah A—, *Ex.* 20.

See also Case 40, p. 199.

### *Partial paralysis of tongue and loss of speech (hypoglossal paresis).*

*Ex.* 24.—Henry H—, æt. 13, had a fit, fell, and was insensible, but was quite still for a quarter of an hour. Since then, and up to the time he was last seen by me, a period of twenty days, he was quite speechless, could not open the mouth wide, nor protrude the tongue. There was some diffi-

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culty in swallowing fluids, and the deglutition of solids was very slowly performed.

Six months previously he had a fit, but this did not affect the speech or leave any notable effects.

*Absence of speech* is an occasional effect of the epileptic condition. The following are instances.

*Ex.* 25.—Alice W—, æt. 13, at eight months of age had the first convulsive attack, which lasted for three or four hours. At the age of seven years she had a second attack, still more severe and prolonged, and was not expected to recover. The third attack occurred six months later, and the fourth at the age of nine years. These three attacks were also very severe. Since the fourth she has been free from fits, but she has continued liable to attacks of excitement when crossed. She has never been able to converse, her speech being confined to the following words, "Yes," "Good," "By," "Poor;" spoken at intervals of days or even weeks.

She is a particularly healthy, well-developed child. She sleeps well, but complains of headache occasionally. Her only other ailments have been rubeola and pertussis.

I prescribed a mild interrupted current to the nape and front of the neck, and hemlock juice to quiet the liability to mental excitement, in doses rapidly increased from ʒiij to ʒxij, once or twice a day according to need.

During the few months she remained under treatment there was a decided decrease in the number of the attacks of excitement, and she was reported to have made the combinations "Come on," and "Give me one" during this time, having spoken only monosyllables previously.

The following is another instance, loss of speech in this case being a part of the infantile paralysis.

*Ex.* 26.—Ellen W—, æt. 9, had severe fits during dentition, and they continue up to the present age at intervals of three months. She is strongly convulsed in the attacks, which last for three or four hours. After sleeping three or four hours more, recovery is complete.

She has never walked, the right knee is a little contracted; she uses the left hand, and the right only for pulling. Her

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speech is limited to a few words, and she has said "Bless my soul," "Here, here."

She appears to be lapsing into idiocy, her bonnet strings are wet with overflowing saliva.

Her mother had a slight fright at the sixth month of gestation.

*Frequent repetition or violence of the attacks will sometimes produce complete exhaustion of the nervous system and death,* thus:—

*Ex.* 27.—A powerfully-developed, and apparently healthy young man, about 24 years of age, was admitted into King's College Hospital in a convulsed and unconscious condition. The convulsions were chronic, violent, and equally distributed, and occurred at frequent intervals. He was profoundly unconscious. In the intervals, the muscles were flaccid and the pupils equal. The excretions were normal. He died the same day without further change.

The post-mortem examination revealed nothing but slight thickening and opacity of the arachnoid.

*Ex.* 28.—Again: A girl, æt. 14, had been afflicted with epilepsy for about a year; the fits increased rapidly in frequency and severity, and in one of them the patient died. A small tumour the size of a pea was found attached by a short stalk to one of the superficial veins of the right corpus striatum. It proved to be a cisticercus. There was no appearance of irritation, much less of inflammation in the neighbouring nerve-tissue.

### *Epileptic hemiplegia including infantile paralysis.*

I now call attention to these permanent results of the epileptic attack. I hope hereafter to resume this interesting branch of the inquiry, and I believe I shall have no difficulty in proving that both permanent hemiplegia and infantile paralysis often result from an accidental overflow of nerve force of such intensity as to permanently damage the conducting motor fibres. Temporarily, hemiparesis or hemiplegia is present in many cases.



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The following is an instance of permanent hemiplegia:

*Ex.* 29.—Esther F—, æt. 34, a healthy and intelligent woman, liable since her marriage to slight epileptic attacks. A week after her last (5th) confinement, from which she was nearly convalescent, and while drinking her tea and joking with a neighbour, dropped the cup from her hand and was seized with one of her usual attacks, a succession of them followed. She regained her consciousness in an hour, but on doing so discovered that she had lost the use of her left limbs, and the mouth was drawn to the right. She was admitted five weeks after the attack. The left arm and leg were completely paralysed, and the fall gave slight indications of pre-existing palsy of the left side. The mind was clear, she was cheerful and bright, and the functions were all normal. The leg speedily, but only partially, recovered, and she was able to leave the hospital seven weeks after admission. A month afterwards she had another fit similar to the one which caused the paralysis.

A year after the attack she was able to walk half a mile, but there was much dragging of the leg, and the arm remained completely paralysed, the fingers flexed and contracted. Under the influence of bromide of potassium a recurrence of the fits has been so far prevented.

*Ex.* 30.—Mrs. M—, æt. 64, lost the use of her right side and speech after her first confinement, in consequence of one of her usual fits. Now, after an interval of forty years, the right hand is closed and contracted, the elbow rigidly flexed at right angles, and she cannot raise the arm. Can walk only a few hundred yards, and drags the right leg. The tongue is protruded readily and straight, but she can only say a few words, "Um, um, O yes, tired, John, me, mine, Mas on" (her name). She is perfectly intelligent, and has the full use of the other senses; she does not even wear spectacles; the pupils, however, are unequal.

*Ex.* 31.—Henry G—, æt. 28. Had his first fit two years ago. It was followed by paralysis of the right side, and he was in St. George's Hospital under Dr. Barclay two months in this condition. He pefectly recovered the use of his side, but has had a return of the fits lately.

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*Ex.* 32.—Cordelia S—,[1] æt. 4½, a strong, bright, intelligent child. At the age of two years she fell on her head and lay insensible for two minutes, a slight scar on the left temple is the result of the accident; at this time dentition was completed. Seven weeks afterwards she had a rapid succession of seven severe fits within three hours. This attack left her powerless and speechless. There were no febrile symptoms, she lay composedly, and apparently recovered, but the right limbs were powerless, and the only word she spoke was "tea." She had no more fits for a year, they then returned, and she had one every day, but they were less severe. After continuing for two months she had an interval of freedom for four months, the attacks then recurred as severe as ever, but more frequently, having as many as nine in the twenty-four hours. They continued for the next three months, during the last three weeks of which time she was under treatment. They last two minutes, and the right limbs are more convulsed than the left. There is slight atrophy of the muscles of the right limbs. Under the influence of conium in large doses a rapid improvement took place, and in the course of three months she was able to walk with a considerable drag of the right foot, and could raise the right arm above the head; her vocabulary increased and her speech became more distinct.

*Ex.* 33.—Alice H—, æt. 7, became the subject of partial idiocy and general paralysis, the result of frequent, but not severe epileptic fits (sometimes as many as twelve a day). The fits appear to have been caused by a fall on the head at the tenth month of age.

The following is a marked instance of the *paralysing effects of epilepsy, with a gradual and prominent impairment of voluntary power; and also of death from exhaustion produced by an attack.*

*Ex.* 34.—Agnes S—, of dark complexion, well-developed and of good general health, died at the age of thirty after an epileptic fit. She was not so much convulsed as usual in the attack, but remained completely unconscious and without movement for fifty hours after it. As usual the left

[1] This case is recorded at length in vol. lvii, 'Medico-Chirurgical Trans., p. 126.

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side of the body was the more convulsed, the face being drawn to the left, and the eyes closed.

The following is her history: She had gastric fever between 14 and 15, at which latter age she experienced her first fit—as a result, it seemed to her parents, of the gastric fever. The fit was a severe one, but she recovered consciousness after two hours. During the following year she had several slighter attacks, but for the next two years, from 17 to 19, was quite free from them.

She married at the age of 19, and during the next nine years gave birth to four healthy children, three of whom are living. Shortly after marriage she had another fit, and during the next seven years three others, all at pretty regular intervals and all very severe, attended by prolonged unconsciousness and followed by marked weakness of the left limbs and of the muscles of the right side of the face, effects which nearly passed off before the return of the next fit. The weakness of the left leg, however, was increased by each attack. About this time she came under my care, five years before her death and seven years after marriage. The left leg had been weak for four years, and two years previously the left side of the face was paralysed for three weeks, and at this time, probably upon a suspicion of syphilis, which, however, never existed, she was salivated. The fits were now recurring every six or twelve weeks, the convulsions being more severe, the after effects more prolonged, and the intervals too short for the recovery of the hemiplegic weakness.

She presented a healthy appearance, but rather a heavy manner, and could attribute her fits to no cause except depression of spirits, which was evidently nothing more than an effect.

She now walked with difficulty, requiring support and dragging the left leg; there was no wasting or spasm of the muscles, no diminution of sensation, nor any trace of facial palsy.

During the next three years the intervals of freedom from the fits were longer, the average duration being about four months. The attacks, however, increased in severity but not so much in convulsive movements as in the after

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effects, the unconsciousness attending them being profound, and extending to twenty-four, thirty-six, and forty-eight hours.

At the end of this time she was unable to walk, being wheeled about in a chair. Very little voluntary power remained in the left leg: to use her own description "The left leg stood out, and she could not get the right one down; the knees were weak and achy and there was a frequent sensation of needles and pins in both legs and feet, but chiefly the left." There was no loss of sensation nor wasting of muscles. The tongue usually deviated to the left, and the right pupil was always slightly the larger. The memory and vision were both, she thought, getting weak.

In one typical attack which I witnessed in the hospital she lay completely paralysed, with relaxed sphincters, and unconscious for nearly three days, and then began to return very slowly to sense and motion, but the limbs were flaccid and powerless for several days.

At this time, two years before her death, she conceived her fourth child. During the second month of gestation she had a fit, but went the remaining period and four months longer without any return. A healthy child was born at the normal period. She did not nurse. This long freedom (eleven months) from an attack resulted in marked improvement. The sight and memory were better and she could again walk across the room with assistance.

Four months after her confinement she had another fit, very severe, the convulsive stage lasting six hours, and the unconscious state for twenty-four hours longer. Seven months later on, and when a little improvement had taken place in the use of the legs, another attack came on, unconsciousness continuing for thirty-six hours. After this she was never able to walk or stand, and was lifted in and out of bed, and had scarcely any feeling in her legs.

The general health continued good and she became stouter; there was, however, no reappearance of the catamenia from the time of her confinement.

The fits now increased in frequency and she became more and more lethargic and weaker, the unconsciousness after each succeeding attack being so profound and protracted that

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it seemed doubtful on each occasion whether she would recover.

This case is a notable one, serving as it does to explain much that we see in epilepsy. The disease was at first one of ordinary functional epilepsy, beginning with the menstrual nisus, increasing in severity and causing a partial degeneracy of nerve-cells, corresponding and proportionate to the amount of paresis. A *partial* degeneracy undoubtedly, for we have evidence up to within two years of her death that the temporary paralysis and subsequent paresis were the direct effects of the convulsive attacks, and that when these were postponed for a sufficient length of time the muscular and mental weakness diminished to such an extent as to make it conclusive that if the intervals between the fits could have been sufficiently prolonged recovery would have been complete.

As far as my observation goes, hemiplegia is a frequent result of epilepsy, whether from complete exhaustion and subsequent degeneration of the nerve-cells, or from some obscure lesion taking place at the time of the fit[1] is uncertain.

### *Influence of pregnancy and the puerperal state in the production of epilepsy.*

A consideration of Case 34, in which the pregnant state appeared to be inimical to epilepsy, induced me to look through the cases in the present table with the view of ascertaining the effects of pregnancy and the puerperal state on the production and recurrence of the epileptic attacks. The following are the results:

A. *Pregnancy.—Ex.* 35.—Mary Ann G—, æt. 40, had the first fit at the age of seventeen, shortly after marriage, and when she was pregnant of twins. During the next twenty-three years she gave birth to seventeen children, eight of whom were twins. She had during this time a severe fit, lasting from a quarter to half an hour, every three,

[1] We know that a conductor becomes ruined when its sectional area is greatly disproportionate to the amount of electricity to be transmitted. The nerves are mere conductors adapted normally for the convection of moderate currents, and it is reasonable to suppose that the violent explosions of nerve force which generate the convulsions may in like manner act injuriously upon the delicate conducting fibres without producing, for a time at least, any evidence of lesion.

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four, seven, or fourteen days. The general health remained good, although she was usually affected with either leucorrhœa or menorrhagia.

As a rule the fits, in a confirmed epileptic, are increased towards the end of pregnancy. The reverse, however, was the case in Case 34, p. 195.

*Ex.* 36.—Elizabeth C—, æt. 33, had epileptic aura, momentary forgetfulness, two or three times a day during gestation, and subsequently developed distinct fits.

B. *The puerperal state.—Ex.* 37.—Elizabeth D—, æt. 21, had her first attack two weeks after the birth of her second child, which she nursed, and they have continued almost every day since, a period of seven months. Each fit lasts ten minutes, there is no loss of consciousness, and the convulsive movements are confined to the left side of the face and the left arm.

*Ex.* 38.—Emily B—, æt. 47, the subject of severe attacks, the first of which occurred, at the age of twenty-nine, a week after delivery.

*Ex.* 39.—Ellen E. B—, æt. 30, aborted about the second month and had much flooding. Three days after this ceased she had her first fit. There was no evidence of syphilis.

*Ex.* 40.—Sarah T—, æt. 40, had epilepsy in childhood, but not again, until she was in the fifth to sixth month of pregnancy. Then walking out in the hot July sun she fell down in a fit, and was insensible for three and a half hours. On recovery, and since—a period of nine days—the right hand has been weak, and she halts a little on the right leg.

See also Case 29, p. 194.

I will not draw any conclusion from these examples on the present occasion, as I shall be able to adduce many more from my private cases, and I hope to resume the subject at this point next year.

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# CASE

OF

# GANGRENE OF LUNG CONSECUTIVE TO ACUTE PNEUMONIA.

## TREATMENT BY DRAINAGE; DEATH FROM PULMONARY HÆMORRHAGE.

By GEORGE GULLIVER, M.A., M.B.

Cases of this disease, treated in the same manner, have already been reported, but they are sufficiently rare to warrant the insertion of a brief account of the above. The facts of the case are these.

H. Y—, æt. 47, a farrier by trade, was admitted under Dr. Harley on October 1st of this year. The history was as follows :—He was a flabby subject, looking quite his age, who had lived in a manner by no means intemperate, and who gave no history of previous illness. With regard to his family history, the only point of import was that his father died at the age of sixty from rupture of a blood-vessel, otherwise it was exceptionally good. The material points in the history of his present illness were that on September 29th, two days before his admission, he was taken ill suddenly with severe pain in his left side, dyspnœa, shivering, and loss of appetite, so that he was compelled to discontinue his work in the evening of that day. He was himself inclined to attribute his illness to a kick from a

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horse which he had received on the 23rd, six days before the onset of his illness, but there is nothing in the subsequent history of the case to bear this out. He could not have been seriously ill on the outset of the 29th as he did fourteen hours' work on that day, and the symptoms set in in the evening.

*On admission,* he complained of cough, pain in the left side on inspiration, and tenderness on the same side. The respirations were quick. There is in the notes a most incomplete account of the physical signs on admission, but there are said to have been no abnormal signs in the lungs. The heart was normal, the pulse 84, and the temperature is noted as 98·4°, though, as will be seen subsequently, this was probably a mistake, owing to its having been taken just after a bath. The appetite is noted as good, tongue slightly furred and very tremulous. The urine was normal.

The temperature on the day after his admission reached 103°, and from that time onwards was nearly always elevated. In fact this was the case constantly till the morning of October 10th, when for the first time it was normal. The highest point reached previous to this was 104° on the evening of the 8th, and the lowest 100° on the morning of the 7th. On October 3rd it is noted that he breathed with less pain and that there was a good deal of frothy expectoration. Respiration 28, pulse 106. Then on the 5th it is stated that he had much cough with frothy tenacious expectoration; there were rhonchi to be heard over both lungs, front and back. The tongue was coated with white fur and tremulous. There was no delirium. From the 5th till the 9th inst. there is no note of his condition other than the temperature record. This, as above stated, was constantly elevated during that period.

On the 10th I came on duty for Dr. Harley for a short time, and I am indebted to him for his courtesy in allowing me to keep charge of the case till the end.

On the 9th there occurs the following note: "Left side of chest resonant anteriorly; breathing very feeble. Posteriorly dulness from angle of scapula to base, with almost complete absence of breath-sounds, and diminished vocal fremitus. Right lung resonant, with musical rhonchi, and a few moist râles. Patient spits up small quantities of

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greenish sputum." On the 10th the dulness was the same, and also the condition with regard to the vocal fremitus and resonance, but it is noted that the sputum was abundant and very offensive. The presence of some fluid in the pleura was suspected, at the same time that gangrene of the lung was suggested by the horribly offensive sputum. He was ordered wine and carbonate of ammonia. On the 11th he became worse, with laboured respiration, weak pulse, diarrhœa, and partial collapse. On examination the dulness was not nearly so absolute at the left base, and about the angle of the scapula amphoric breathing could be heard; the expectoration was abundant, excessively offensive, and appeared to consist of almost pure pus. The chest was aspirated at the point where the amphoric breathing was audible, and about an ounce of thin, offensive decomposing pus came away. It is not noted that any gas came away with it. The diagnosis was pretty well beyond doubt, and it was determined to make an opening and drain the cavity. Accordingly on the 12th the patient was placed under chloroform, and Mr. Battle made an incision in the neighbourhood of the puncture a short way below the angle of the scapula. By this means he cut down on the eighth rib, of which he removed about an inch. On cutting through the pleura a cavity was reached from which there was evacuated about half a pint of brownish, horribly offensive matter. On exploring with the finger it was thought that in some directions the walls of a smoothly lined cavity could be felt. A large drainage-tube was inserted, the cavity washed out with perchloride of mercury, and the wound dressed with iodoform gauze. The patient became a little livid towards the close of the operation, but, on the whole, underwent it well. During the night the dressings were soaked through with discharge. The next morning the patient was breathing quite quietly and declared himself much relieved. From this time till the 24th, a period of eleven days, the patient continued to make fair progress; the discharge, though still offensive, diminished in quantity, his cough was relieved, and the sputum became inoffensive. The temperature, though raised during some part of each day, presented no formidable elevation. The appetite improved.

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There was never albumen in the urine. However, on the 24th, alarming hæmorrhage took place through the tube, some blood being at the same time brought up by mouth. The wound was plugged, and the patient rallied, but on the morning of the 26th there was a second onset of bleeding to which the patient rapidly succumbed.

*Post-mortem appearances.*—The body was that of a fairly-nourished man. A wound had been made in the left side, and a portion of the eighth rib removed. On removing the sternum the left pleural cavity was found to contain no fluid, but there was a small quantity of recent lymph on the visceral surface. Posteriorly, all round the aperture, and extending upwards along the back of the upper lobe were firm fibrous ahesions. In the lung there was a cavity of irregular shape with ragged walls. It appeared to occupy a position between the upper and lower lobes, into which it burrowed upwards and downwards respectively. In the walls of that part of it which occupied the upper lobe there was seen a vessel of the size of a crowquill which had its lumen patent for about a third of an inch. This vessel was readily traced into one of the principal branches of the pulmonary artery, and was without doubt the source of the hæmorrhage. A firm cord, apparently a vessel, ran across that part of the cavity which occupied the lower lobe. It should be mentioned that the cavity was filled with recent clot. Near this was a small cavity of the size of a hazel nut which contained a calcareous nodule. Along the anterior border of the lung were some grey patches of consolidation, but no cavities. The lower lobe, except for the appearances described, was fairly crepitant and healthy. There was no sign of fracture of rib, old or recent. The right pleura showed some old adhesions. In the lower lobe of the right lung was a small cavity, the size of a filbert, with smooth walls. The upper lobe was emphysematous, and the lung was generally heavy and œdematous. There was no tubercle anywhere. The right side of the heart was dilated, otherwise the remaining organs were healthy.

*Remarks.*—This case seems to have been beyond a doubt one of gangrene of the lung following an attack of croupous pneumonia in a man of bad constitution. It is true

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that no physical signs of acute pneumonia were observed before the onset of the gangrene; but we know that this disease does not always show itself on the surface, and the sudden onset of the illness, the subsequent course of the temperature, and our knowledge of parallel cases, warrant us in concluding that there was such a condition. The condition noted on the 9th of dulness combined with signs such as are found in pleuritic effusions, and scanty expectoration, point to the fact that at that time the cavity was full of gangrene, or rather perhaps that the sloughs had not separated so as to form a cavity. The subsequent presence of amphoric sounds with copious fœtid expectoration tend to confirm this by indicating that they had done so at that time. With regard to the manner of death it may be mentioned that pulmonary hæmorrhage is stated to be of not unfrequent occurrence in gangrene, but, contrary to what one might expect, it is rarely copious and still more rarely fatal.

I will now briefly consider the question of operation. I find records of three cases which have been treated in the same way. The first is the case of a child which was under the care of Dr. Cayley[1] suffering from pulmonary gangrene, apparently secondary to necrosis of temporal bone, which in its turn was a sequel of scarlet fever. The case was operated on and made a good recovery. The second was the case of a man æt. 40, also under Dr. Cayley.[2] In this case the man was of bad constitution. The symptoms were very much more gradual than in my case, and post mortem there appears to have been some evidence of phthisis, and the kidneys showed signs of incipient disease. In other respects the two cases were strikingly alike. The operation relieved him very much, but he subsequently sank and died from exhaustion. The third case was under the care of Mr. Smith, of Halifax.[3] It was that of a gentleman of 60, who was operated on when in a very desperate condition, and who was relieved, but had not sufficient strength to rally permanently.

The first of Dr. Cayley's cases is interesting as showing

[1] 'Trans. Royal Medical and Chirurgical Society,' vol. lxvii.

[2] 'Trans. Clinical Society,' 1879.

[3] 'Lancet,' 1880.

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the cure which may result by means of this operation, but it is in other respects not strictly comparable, as things are so different with a child and a person in middle or advanced life. The other two cases are comparable. In all the cases the patient was in a desperate condition, and in all great relief was experienced from the operation, so much so that we may surely hope for cures in the future.

My case gives more reason for hope, seeing that he died as it were from an accident, which could in no way be attributed to the operation. The only strong argument against the operation is the fear of producing pneumothorax, which in the desperate condition of these cases could hardly have weight. A good diagnostic point noted by Dr. Cayley is the passage of air through the cannula after withdrawal of the trocar, and another is the presence of lung tissue in the expectoration. I mention these since at one time the case in its physical signs was by no means unlike one of pleuritic effusion as mentioned above.

I have purposely omitted all mention of chronic cases, such as those of phthisis, bronchiectasis, and the like, which may have been treated by drainage, as having no immediate bearing on the question.

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# CASES OF THYROID DISEASE.

By WALTER EDMUNDS.

The first two of the following four cases bear on the treatment of large cysts in the thyroid body, a subject on which there is some divergence of opinion; the third is one of excision of a tumour in the thyroid body; and the fourth a case of cancer of the thyroid.

The first case was that of a woman æt. 47. For fourteen years she had had a cyst in the left lobe of the thyroid; six months before admission the cyst had been tapped and a cupful of bloody fluid drawn out; the cyst gradually refilled and at the time of entering the Home was about the size it had been before tapping.

Simple tapping having failed to relieve her it was resolved, after again tapping, to plug the canula and fasten it in, and possibly also to inject a strong solution of perchloride of iron. This last, however, was not done, partly because there was hardly any oozing, and partly because the patient was not a suitable subject for active treatment. After three days the canula was taken out, the hope being that the irritation excited by it might be sufficient to cause adhesions, which would diminish the size of the cyst should it again fill.

The cyst has since refilled, but not to its former size or tenseness, and it does not cause sufficient inconvenience to the patient to induce her to have anything further done for it. Another cyst, however, in the other lobe of the thyroid

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appeared, and the patient subsequently returned to have this treated. But meanwhile a second case of thyroid cyst had come under observation; this was in a young man æt. 22, who had a somewhat rapidly growing cyst at about the middle of the thyroid. It was tapped with a large-sized trocar and canula, and a strong solution of perchloride of iron injected, the canula being fastened in. The iron excited, as was intended, suppuration, but owing apparently to the inner end of the canula having slipped out of the collapsed cyst the abscess did not drain through it. Pyrexia came on with one or two rigors, and it was necessary to place the patient under ether, and by following up the sinus to let the abscess drain; this being done the cyst quickly contracted and the external wound healing the patient went out well. This patient has been seen again eighteen months later; the thyroid body is somewhat large, but the cyst has completely disappeared; he has had, about once every two months at first and more frequently recently, attacks of difficulty of breathing, lasting some ten minutes, he being perfectly well in the intervals; these attacks must be due to spasm, for there is no pressure exerted by the thyroid body on the trachea. His pulse is frequent (120), and as his heart is somewhat enlarged and he has had occasional angina pains, it must be feared that he is suffering from Graves' disease, although there is no exophthalmos.

The method of treatment adopted in this case does not appear very satisfactory, for, apart from the risk of the canula slipping, there is danger of the iron exciting a very severe inflammation.

Accordingly, when the first case returned for the treatment of the second cyst, a different method of treatment was adopted. The thyroid was exposed and the cyst incised and plugged with iodoform gauze. This stopped any oozing from the cavity of the cyst, but there was a little difficulty in arresting the hæmorrhage from the cut substance of the thyroid, owing to the tissue tearing when an attempt was made to ligature any vessel; the oozing was stopped by leaving one or two pairs of clamp forceps on bleeding vessels. When they were taken off in three hours' time the bleeding did not recur. The iodoform gauze was changed occa-

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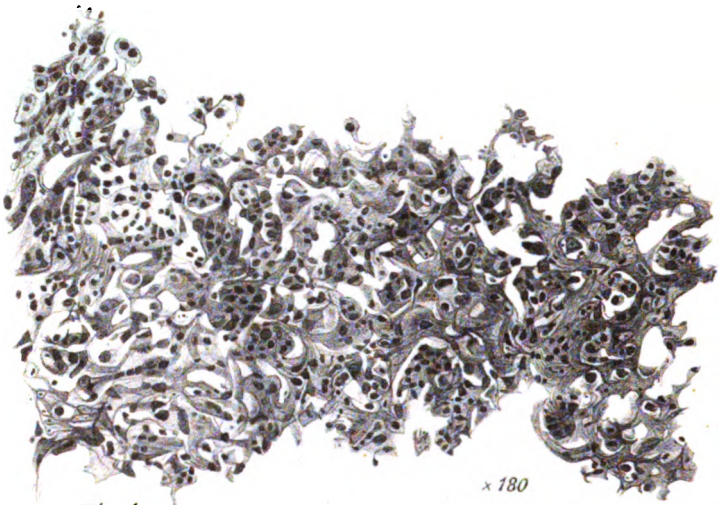


Fig. 1.

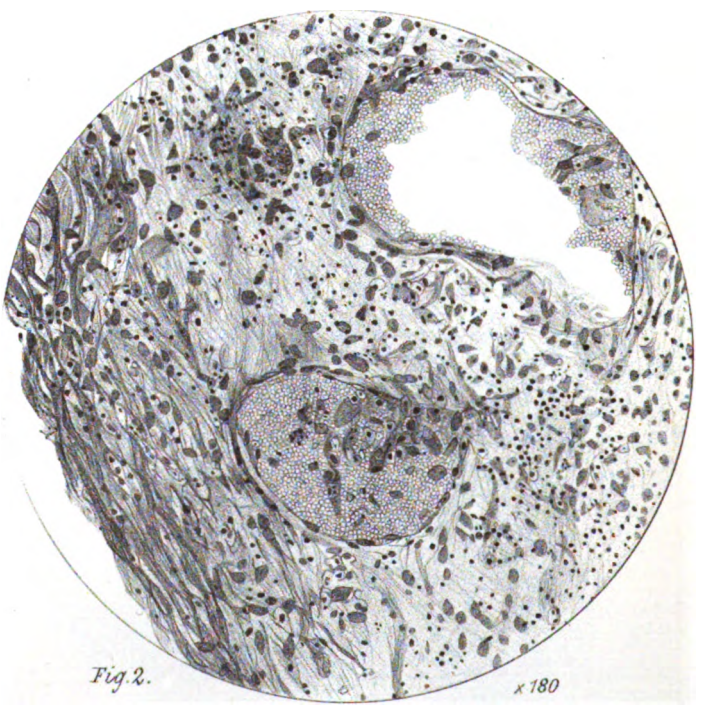


Fig. 2.



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## DESCRIPTION OF PLATE IV,

### Illustrating Mr. Edmunds' Cases of Thyroid Disease.

Fig. 1 shows the cancer in the thyroid body (Case 4).

Fig. 2 shows the growth in one of the nodules on the pleura; the cancer cells are seen growing into a blood-vessel.

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sionally, the cyst contracted, and the wound healed without the occurrence of suppuration.

The general principle of the treatment of these cases should be to make an opening into the cyst and drain it, and as for the possibly serious hæmorrhage that may arise in doing this it must be arrested by pressure, by clamping and ligaturing the vessels, by the use of the actual cautery, or by perchloride of iron according to the circumstances of the particular case.

The third case was that of a woman æt. 35. There was a small tumour connected with the isthmus of the thyroid; on exposing it it seemed better to remove the isthmus and the tumour together. Silk ligatures were passed through the thyroid on each side of the isthmus, which was then removed without hæmorrhage. After a time the ligatures separated and the wound healed. This patient has recently been seen again and continues well.

The fourth case was one of medical interest. A clergyman, æt. 45, was admitted suffering from great albuminuria, general dropsy and dyspnœa, due to the presence of fluid in both pleuræ; he had in fact well-marked Bright's disease. He had also an enlargement of the thyroid body, but as he had had this for some years without it causing him any trouble, he did not attach any importance to it, and its connection with his symptoms was not appreciated.

To relieve the dyspnœa first one pleura and on a later day the other was tapped, and there came out not clear serum but a fluid containing a large quantity of blood, which coagulated on standing; the fluid rapidly reaccumulated and the pleuræ had to be (or at least were) repeatedly tapped. The patient rapidly became weaker and died.

The autopsy was kindly made by my friend Dr. Acland, who also undertook the microscopic examination. It was found that there were large white kidneys (as diagnosed), but there was also cancer of the thyroid body with secondary growths in both pleuræ, but not in the lungs or elsewhere.

The cancer in the pleuræ was clearly the cause of the hæmorrhage, for extravasated blood could be seen in the cancerous nodules, and under the microscope the cancerous



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cells could be seen growing into the blood-vessels of the growth (*vide* fig. 2).

As to the recurrence having occurred in the pleuræ and not elsewhere it is interesting to note that the pleuræ, like the thyroid body, are said to be of hypoblastic origin.[1] Kaufmann[2] found that by far the most frequent site of recurrence of cancer of the thyroid was the lungs, under which head he apparently includes the pleuræ. The lungs are partly of hypoblastic origin.

Although it is difficult to see a connection between the disease in the thyroid and that in the kidneys, it does not follow that their co-existence was merely accidental; that is in itself improbable and is rendered more so by the recent relation at the Pathological Society [3] by Dr. Carrington of a case of cancer of the thyroid in which also there was subacute nephritis.

The goitre in this case was probably of constitutional origin, for the patient had not lived out of England, and a brother suffered from the same disease.

[1] Ziegler's 'Pathology,' translated by Macalister, vol. ii, p. 124.

[2] 'Deutsche Zeitschrift für Chirurgie,' vol. xi, p. 467.

[3] December 1st, 1885.

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# THE THROAT DEPARTMENT OF ST. THOMAS'S HOSPITAL IN 1884.

By FELIX SEMON, M.D., F.R.C.P.,
ASSISTANT PHYSICIAN IN CHARGE OF THE THROAT DEPARTMENT.

Various circumstances prevent me from giving this time a more detailed report of the work done in the Throat Department, such as I have given in the previous years. I must be content with giving the statistics of the diseases treated in the Throat Department in the year 1884, and leave the communication in detail of some of the most interesting cases which came under observation during that period to my next year's report. The statistics have been carefully compiled according to the principles laid down in my first report by my late clinical assistant, Mr. Lister Marriner, and I have much pleasure in thanking him as well as my other past and present clinical assistants and clerks for the efficient assistance I have received from them. My warm thanks are also due to all my colleagues for their continued kindness and support.

The total number of patients seen in the Throat Department from January 1st to December 31st, 1884, was 770. Of these 17 were immediately transferred to other depart-

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ments, because the throat symptoms played only a subordinate part in their affections, and 16 in whom no satisfactory examination could be made on their first appearance, did not come again. Of the remaining 737, 308 were men and 429 women. These 737 paid altogether 2623 visits, which makes an average of from three to four visits for every individual patient.

### A. *Pharyngeal Affections.*

| Disease. | Number of patients. | | |
|---|---|---|---|
| | Male. | Female. | Total. |
| 1. Isolated anæmia | — | 2 | 2 |
| 2. Acute pharyngitis | 37 | 28 | 65 |
| 3. Chronic pharyngitis | 13 | 35 | 48 |
| 4. Acute tonsillitis | 75 | 81 | 156 |
| 5. Chronic tonsillitis and hypertrophy of tonsils | 36 | 54 | 90 |
| 6. Acute uvulitis | 4 | — | 4 |
| 7. Elongated uvula | 1 | — | 1 |
| 8. Syphilis *a.* Congenital | — | 1 | 1 |
| 8. Syphilis *b.* Secondary | 8 | 8 | 16 |
| 8. Syphilis *c.* Tertiary | 6 | 14 | 20 |
| 9. Tuberculosis of palate and pharynx [1] | 1 | — | 1 |
| 10. Herpes of palate and pharynx | — | 2 | 2 |
| 11. Retropharyngeal abscess | — | 1 | 1 |
| 12. Post-diphtheritic paralysis of soft palate | — | 1 | 1 |
| 13. Paræsthesia and hyperæsthesia | — | 14 | 14 |
| 14. Carcinoma (?) of pharynx | 1 | — | 1 |
| 15. Doubtful tumour of tonsil | — | 1 | 1 |
| 16. Naso-pharyngeal catarrh | 1 | 4 | 5 |
| 17. Adenoid vegetations | 8 | 11 | 19 |
| Total | 191 | 257 | 448 |

[1] The patient was shown to the members of the Pathological Society.

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## B. *Laryngeal and Tracheal Affections.*

| Disease. | Number of patients. | | |
|---|---|---|---|
| | Male. | Female. | Total. |
| 1. Isolated anæmia of larynx | — | 2 | 2 |
| 2. Acute laryngitis (including simple catarrh) | 20 | 13 | 33 |
| 3. Subacute laryngitis | 13 | 17 | 30 |
| 4. Chronic laryngitis | 13 | 8 | 21 |
| 5. Laryngeal diphtheria | — | 1 | 1 |
| 6. Change of voice at puberty | 1 | — | 1 |
| 7. Blennorrhœa (Stoerk's) of larynx and nose | — | 1 | 1 |
| 8. Traumatic hæmatoma of right arytænoid cartilage | 1 | — | 1 |
| 9. Laryngeal phthisis | 15 | 15 | 30 |
| 10. Syphilis *a.* Secondary | 2 | 3 | 5 |
| 10. Syphilis *b.* Tertiary | 7 | 5 | 12 |
| 11. Benign neoplasms *a.* Papillomata | 3 | 2 | 5 |
| 11. Benign neoplasms *b.* Growths of doubtful nature | 2 | 1 | 3 |
| 12. Carcinoma | 4 | 3 (?) | 7 |
| 13. Anchylosis of crico-arytænoid articulation | — | 2 | 2 |
| 14. Paralysis *a.* Of vagus | 1 | 1 | 2 |
| 14. Paralysis *b.* Of recurrens | 2 | 2 | 4 |
| 14. Paralysis *c.* Of abductors[1] (bilateral and unilateral) | 4 | — | 4 |
| 14. Paralysis *d.* Of adductors | 2 | 37 | 39 |
| 14. Paralysis *e.* Myopathic, in phthisis | 1 | 1 | 2 |
| 15. Aphonia spastica (spasm of tensors and adductors) | — | 1 | 1 |
| 16. Nervous laryngeal cough | 1 | — | 1 |
| 17. Cicatrix after cut throat and laryngeal stenosis | 1 | — | 1 |
| 18. Tracheocele (?) | — | 1 | 1 |
| Total | 93 | 116 | 209 |

## C. *Nasal Affections.*

| Disease. | Number of patients. | | |
|---|---|---|---|
| | Male. | Female. | Total. |
| 1. Epistaxis | 1 | — | 1 |
| 2. Ozæna | — | 1 | 1 |
| 3. Chronic rhinitis | 1 | 2 | 3 |
| 4. Mucous polypi | — | 2 | 2 |
| 5. Syphilis *a.* Congenital | — | 1 | 1 |
| 5. Syphilis *b.* Tertiary | 2 | 3 | 5 |
| 6. Deviation of septum narium | 1 | — | 1 |
| 7. Tuberculosis of nasal mucous membrane | — | 1 | 1 |
| 8. Eczema introitus narium | — | 1 | 1 |
| 9. Perforation of septum of doubtful origin | 1 | — | 1 |
| Total | 6 | 11 | 17 |

[1] In the two cases under 14 *a*, in which the laryngeal paralysis depended upon affections of the pneumogastric nerves, the abductors were primarily affected.

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D. *Œsophageal and Miscellaneous Affections.*

| Disease. | Number of patients. | | |
|---|---|---|---|
| | Male. | Female. | Total. |
| 1. Obstruction of œsophagus of doubtful nature | — | 1 | 1 |
| 2. Carcinoma of œsophagus | 1 | 1 | 2 |
| 3. Foreign body in œsophagus | 1 | — | 1 |
| 4. Syphilis of œsophagus | 1 | — | 1 |
| 5. Globus hystericus | — | 12 | 12 |
| 6. Goitre *a.* Parenchymatous | — | 2 | 2 |
| 6. Goitre *b.* Fibrous | — | 1 | 1 |
| 6. Goitre *c.* Exophthalmic | — | 1 | 1 |
| 7. Enlarged cervical glands | 3 | 4 | 7 |
| 8. Ulcerative stomatitis | 1 | — | 1 |
| 9. Paræsthesia of tongue | — | 1 | 1 |
| 10. Secondary syphilis of mouth and tongue | 3 | 8 | 11 |
| 11. Ulcers of tongue of doubtful origin | — | 2 | 2 |
| 12. Aneurism of aorta without laryngeal lesions | 2 | — | 2 |
| 13. Pulmonary phthisis | 2 | 2 | 4 |
| 14. General debility and anæmia | 3 | 10 | 13 |
| 15. Syphilophobia | 1 | — | 1 |
| Total | 18 | 45 | 63 |

*Grand Total.*

| Disease. | Number of patients. | | |
|---|---|---|---|
| | Male. | Female. | Total. |
| Pharyngeal | 191 | 257 | 448 |
| Laryngeal | 93 | 116 | 209 |
| Nasal | 6 | 11 | 17 |
| Œsophageal and miscellaneous | 18 | 45 | 63 |
| Grand total | 308 | 429 | 737 |

The statistics do not call for much comment. The relative proportion of the sexes amongst the patients has, as will be seen on reference to my previous reports, remained almost unaltered, for the proportion of the male to the female patients is again precisely three to four. I have attempted to explain this fact in my last report, and must refer those interested in this question to the same. The total

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number of the patients has again increased, viz. from 658 to 737. Again it is the pharyngeal affections which have mainly swelled the number, and acute tonsillitis being most conspicuous amongst them, Mr. Marriner has kindly compiled the following separate statistics of this affection, which, however, besides corroborating our former experiences with regard to age and sex of the patients, only shows anew that the disease is most prevalent in the summer months, but that one can hardly ascribe to any influence of epidemics or seasons the enormous number of cases which have come under observation.

*Table of Cases of Acute Tonsillitis.*

| Month. | AGE. | | | | | | | | | | | | | | Totals in months. | Totals in quarters. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Males. | | | | | | | Females. | | | | | | | | |
| | -10 | -15 | -20 | -25 | -30 | -40 | -50 | -10 | -15 | -20 | -25 | -30 | -40 | -50 | | |
| January | ... | 2 | 1 | 1 | ... | ... | ... | ... | 3 | ... | 1 | ... | ... | ... | 8 | |
| February | ... | 2 | ... | 2 | ... | 1 | ... | 1 | ... | ... | 1 | ... | ... | ... | 7 | 30 |
| March | 1 | 1 | 1 | 2 | 1 | ... | ... | ... | ... | 4 | 1 | 1 | 2 | 1 | 15 | |
| April | 1 | ... | 2 | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 | ... | 6 | |
| May | ... | 1 | 3 | 1 | 4 | 1 | ... | ... | ... | 2 | 2 | 3 | ... | ... | 17 | 35 |
| June | ... | 1 | 1 | 3 | 2 | 2 | ... | ... | 1 | ... | ... | 2 | .. | ... | 12 | |
| July | ... | 2 | 3 | 2 | 2 | 2 | 1 | ... | 1 | 3 | ... | 2 | 2 | 1 | 21 | |
| August | ... | ... | 4 | 1 | 1 | ... | ... | 1 | 4 | 3 | 2 | 2 | 3 | ... | 21 | 62 |
| September | ... | 2 | 2 | 1 | 2 | ... | ... | 2 | 3 | 2 | 1 | ... | 4 | 1 | 20 | |
| October | ... | 1 | 3 | 2 | ... | ... | ... | ... | ... | 2 | 3 | ... | ... | 1 | 12 | |
| November | ... | ... | 1 | ... | 1 | ... | ... | ... | 1 | 1 | 1 | 2 | 1 | ... | 8 | 29 |
| December | ... | 1 | 1 | 1 | 1 | 1 | ... | 1 | ... | ... | ... | 2 | ... | 1 | 9 | |
| Totals | 2 | 13 | 22 | 16 | 14 | 17 | 1 | 5 | 13 | 17 | 13 | 15 | 13 | 5 | 156 | 156 |
| | | | | 75 | | | | | | | 81 | | | | | |
| | | | | | | | 156 | | | | | | | | | |

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# REPORT

OF THE

# DEPARTMENT FOR DISEASES OF THE SKIN,

# 1884.

By J. F. PAYNE, M.D., F.R.C.P.

The number of new cases admitted, excluding renewals, was 722; arranged as follows:

| | | | |
|---|---|---|---|
| Eczema | 175 | Scabies | 28 |
| Impetigo contagiosa | 91 | Tinea, &c. | 139 |
| Erythema | 5 | Alopecia | 24 |
| Psoriasis | 58 | Acne | 20 |
| Pemphigus | 11 | Lupus | 13 |
| Lichen | 24 | Purpura | 5 |
| Herpes | 14 | Congenital affections | 5 |
| Urticaria | 9 | Other diseases | 25 |
| Pruriginous affections | 21 | | |
| Syphiloderma | 39 | Total | 722 |
| Phthiriasis | 16 | | |

This inevitably includes a certain number of readmissions, patients coming after an interval of some months being regarded as new cases. Partly for this reason, and partly because many cases are not completed at the end of the year, and partly through papers being lost, the number of records does not precisely correspond to this; but I find

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that records of 645 cases are available for purposes of analysis.

In these papers the diagnosis, characters, treatment, and progress of each case are accurately recorded. The results are arranged in the following table:

*Analysis of Cases of Skin Disease.*

| Disease. | M. | F. | Total. |
|---|---|---|---|
| Eczema | 78 | 91 | 169 |
| Impetigo contagiosa | 38 | 35 | 73 |
| Erythema | 0 | 5 | 5 |
| Seborrhœa | 1 | 0 | 1 |
| Psoriasis | 12 | 38 | 50 |
| Pemphigus | 3 | 6 | 9 |
| Hydroa | 1 | 0 | 1 |
| Lichen planus | 0 | 5 | 5 |
| „ scrofulosus | 1 | 0 | 1 |
| „ simplex | 2 | 0 | 2 |
| „ circumscriptus | 8 | 3 | 11 |
| Herpes zoster | 0 | 6 | 6 |
| „ generalis | 1 | 0 | 1 |
| „ iris, including erythema iris | 2 | 6 | 8 |
| Urticaria | 3 | 2 | 5 |
| Pruriginous affections | 8 | 13 | 21 |
| Syphiloderma | 13 | 19 | 32 |
| Phthiriasis | 5 | 9 | 14 |
| Scabies | 15 | 8 | 23 |
| Tinea tonsurans | 56 | 56 | 112 |
| „ circinata | 6 | 4 | 10 |
| „ versicolor | 1 | 0 | 1 |
| Sycosis | 12 | 0 | 12 |
| Alopecia | 8 | 14 | 22 |
| Acne | 10 | 4 | 14 |
| Lupus vulgaris | 1 | 3 | 4 |
| „ erythematosus | 1 | 3 | 4 |
| Scrofuloderma | 1 | 0 | 1 |
| Ichthyosis and Xeroderma | 4 | 1 | 5 |
| Purpura | 4 | 1 | 5 |
| Molluscum fibrosum | 0 | 1 | 1 |
| „ contagiosum | 1 | 1 | 2 |
| Verruca | 1 | 1 | 2 |
| „ necrogenica | 1 | 0 | 1 |
| Varicella | 0 | 1 | 1 |
| „ perstans | 2 | 0 | 2 |
| Vaccinial eruption | 0 | 1 | 1 |
| Medicinal and artificial eruptions | 1 | 2 | 3 |
| Furunculus | 1 | 0 | 1 |
| Trigeminal neurosis | 0 | 2 | 2 |
| Erysipelas | 1 | 0 | 1 |
| Ecthyma | 0 | 1 | 1 |
| | 303 | 342 | |
| Grand total | | | 645 |

## Eczema.

Of the 169 cases, 66 were in children under eight, 38 boys and 28 girls. The remainders give, for men, or rather males of eight years and upwards, 41; and females of eight and upwards, 62. These numbers show what is also clear from my other statistics, that male infants are more liable to eczema than female infants, though in after-life the comparative liability of the two sexes comes to be reversed.

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I do not find the same disproportion on comparing the numbers of children and adults respectively, affected with psoriasis, nor does it clearly obtain in the case of other skin diseases.

The history of these cases has been investigated with a view to confirm or not the prevalent belief in a special connection of eczema with gout. This year no patient was found to be actually suffering from the two diseases; but one woman aged fifty-three, with eczema of the palms, stated that she had had gout (though the description was not very clear); and more explicitly that her father had had "chalk gout," which from the description must have been true gout. Another patient, a youth aged eighteen, with eczema of the face and head, stated that his father had had gout. But the combination is certainly rare. When it occurs, I have no doubt such a coincidence makes an impression on the memory so distinct as to lead us to believe that it occurs more frequently than it does; a common form of fallacy to which everyone is liable. I am far from denying that gout and eczema are associated; and that not very unfrequently. Lately a female patient admitted to the wards with eczema had an attack of gout while in the hospital; and I have lately had at least three cases of gout with eczema under my care at the Blackfriars Hospital for Skin Diseases. Really, however, the proportion of eczema cases with gout is very small; though if we were to take a series of patients treated for gout, doubtless the proportion of eczema cases among them would be larger.

### Impetigo Contagiosa.

The number of cases of this affection shows no sign of diminution; and we continue to find evidence of its epidemic prevalence in particular streets, schools, &c. This year the statistics show a rather unusual number of adults, including cases up to forty-four years of age; in which, however, there was a clear history of contagion. The original sources of suppuration showed great diversity in different cases. In more than one case this year the infection was traced to a

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superficial whitlow; and it is worth noting that MM. Cornil and Babes in their recent work ('Les Bactéries,' Paris, 1885, Atlas, pl. i) have figured from *Tourniole* or Whitlow, a *Streptococcus* or chain of micrococci, such as I have several times seen in early vesico-pustules of impetigo contagiosa. But we are not authorized in concluding from this mere similarity of form, either that the micro-organism is the same in the two cases, or that there is any proof of its being in either case the specific cause of the lesions in which it is found. It is only too easy for micro-organisms to penetrate into superficial inflamed parts, even, as I believe, when the epidermis is apparently unbroken. At the same time it is almost impossible to doubt that the affection now spoken of is produced by a specific cause, *i. e.* a micro-organism, difficult though it may be to discriminate the species from others accidentally present.

## Psoriasis.

The causes of psoriasis are still so obscure that it seems worth while to analyse the history of all cases of this disease with reference to family history and connection with diathetic diseases.

The ages of the patients varied from seven years (2 cases) to seventy (1 case, a man). The average age on admission of male patients was 23·6; of female 21·8; and the average of the whole number 22·3. Three of the 12 cases of males, or one fourth, were fourteen years old or less; while 14 cases out of 38 in females, or more than one third, were of this age, so that on the whole a larger proportion of girls than of boys are affected with this disease. One half the female patients were under twenty-one; 5 out of 12 of the males. The age at which the disease commenced, when ascertainable, is much more important. In the male cases the age at which the disease commenced varied from three months (1 case) to about forty (1 case), the average being seventeen. In the female cases (omitting 6 of which the history was incomplete) the earliest age of commencement was one year; the latest thirty-nine; the average being fifteen and a half years.

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The average duration in the male patients was 6·6 years; in females nearly the same, viz. 6·3 years.

On the whole, the numbers show the greater liability of the female sex; and this difference is most marked in early life.

*Family history.*—Attention is always paid to this point, but the investigation is difficult in the case of hospital patients from the unsatisfactory nature of the information obtained. But of thirty cases in which this point is noted there are seven in which there was a history of psoriasis in the family.

No patient had actually suffered from gout, but in three there was a history of gout in the family. In one of these cases there was a family history of psoriasis also.

Four cases showed a family history of pulmonary phthisis. In two there was a history of what appeared to be eczema in the family. One patient had eczema in addition to psoriasis.

*Treatment.*—The worst case of psoriasis was that of a young man aged 21, in whom it was at one time quite universal, every region of the body, including the palms and soles, being affected. He had suffered from the disease since three months old, and had never been perfectly free from it. He was admitted into the hospital and greatly improved under treatment. The application which did him most good was that of "chrysophanic acid," or more correctly chrysarobin; this being dissolved in a film of gutta-percha and chloroform, or "traumaticin;" a method first introduced, I believe, by Professor Auspitz. The Liquor Gutta Percha of the British Pharmacopœia is a very good "traumaticin," and chrysarobin may be dissolved according to the following formula:

℞ Chrysarobin, gr. xx,
Liquor Gutta Percha, ℥j.

The solution may be also used stronger (gr. xl ad ℥j) or in some cases weaker (gr. x). It should be painted with a brush on the affected places (from which the scales have been previously removed as much as possible by soft soap, &c.) once or even twice a day, so as to form a permanent film. The advantages over any form of ointment are that the action is more rapid, and there is no staining of the

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clothes. I have also used Besnier's modification of the process, which consists in first painting on a chloroform solution of chrysarobin, and covering this with a gutta-percha film. I have also in some cases applied a film of simple gutta percha over the gutta percha and chrysarobin. These methods add to the trouble, but cause the application to adhere more firmly. It is evident that this process can have only a restricted application in the case of out-patients, but in private practice I find it of the greatest possible value, and believe that chrysarobin thus applied is by far the best of all local applications for psoriasis, and for the present supersedes all others.

### Pemphigus.

The male cases were:

1. Man, æt. 52, came first in January, and recovered under arsenical treatment. He returned in July with a relapse which yielded to the same treatment, but not till about three months.

2. Boy, æt. 12. Acute febrile attack, affecting especially the feet, suffered also from chronic psoriasis. The pemphigus ran a short course and in about a week subsided. The medicine administered was quinine.

3. Boy, æt. 3. Acute case of three weeks' standing. The child was only brought once.

The female cases were:

1. Woman, æt. 53, married, an extremely feeble and cachectic subject. The attack was of six weeks' standing. She at first improved while taking arsenic, but suddenly became much worse and was admitted as an in-patient at the end of the year.

2. Woman, æt. 30, married. Case of four months' duration. She stated that she had had similar attacks on four occasions before or after her confinements; the last occasion having been one year before. She was not now pregnant, nor suckling.

3. Girl, æt. 11. An attack of three months' duration on legs and feet only.

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4. Girl, æt. 7. About three months; soon recovered.

5. Girl, æt. 6½, Florence W—. A chronic relapsing case, mentioned in last year's report; had suffered about two years in all. She had been treated both as out-patient and in-patient, and had apparently quite recovered. In 1884 she was brought to the department to be treated for tinea tonsurans, when an eruption of pemphigus suddenly appeared. It yielded to treatment in four weeks (as did the tinea in a somewhat longer time).

6. Girl, æt. 4, Louisa R—. This very remarkable case belongs to the type of which I described an example in the 'St. Thomas's Reports' for 1882 (vol. xii), in the person of a little boy who had suffered from an incurable bullous eruption nearly all his life.

Two similar cases were described almost simultaneously (and quite independently), by Dr. Wickham Legg, in the 'St. Bartholomew's Hospital Reports,' vol. xix.

I have since seen one other case which I do not describe here, beside that now spoken of.

The characters which distinguish this remarkable skin affection are as follows:

1. The eruption is bullous only.

2. It is congenital or, at least, originates in infancy.

3. The bullæ are brought out by any blow or slight violence, and for the most part, if not always, do not arise without such a cause.

4. There is sometimes hæmorrhage into the bullæ.

5. The nails, both of hands and feet, are affected in a remarkable manner, being sometimes thickened and deformed, sometimes falling off altogether, and, in the latter case, not always growing again. (See 'St. Thomas's Hospital Reports,' vol. xii, pl. 1.)

6. The disease is unaffected by arsenic or any other drug, and appears to be quite incurable, though its severity may depend upon the state of the patient's health.

7. It is unconnected with syphilis or any diathetic disease.

All these characters were perfectly well displayed in the three separate cases which I have seen, as well as in the two (from one family) described by Dr. Wickham Legg. As a proof of the permanent and incurable nature of the disease I



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may mention that I have lately heard from my friend Dr. Cavafy that my original case, the boy W. P—, who was under my care so many years, is now this year (1885) still in precisely the same condition as formerly. His health is perfectly good, but the skin is still subject to the same lesions.[1]

Hence doubt must arise as to whether this affection should really be called pemphigus, or whether it is strictly a disease and not rather a congenital vulnerability of the skin. I confess, with my present experience, I should be inclined to put it in the latter category, or at least to describe it as a "*traumatic bullous affection resembling pemphigus.*"

## Hydroa.

Although some objection may be taken to this name I do not know what else to call the eruptions we sometimes meet with in which bullæ, vesicles, and papules are mingled together. The one case observed was:

George P—, æt. 18 months. Brought with an eruption on the trunk and limbs, especially the legs, of a mixed character, consisting of bullæ up to half an inch in diameter, vesicles of one eighth of an inch or less, and red erythematous patches, one quarter to one half an inch in diameter, with a central vesicle. These vesicles and bullæ sometimes suppurate. There appears to be no great itching. The spots come up in crops, which last a week or a few days. The present eruption has lasted one week, but the child has been subject to the complaint since 8 months old.

The child is still at the breast. He shows some signs of rickets, but is otherwise healthy. He is the first child of a healthy young woman æt. 26, whose family are healthy.

In a week the eruption was better, and in three weeks was nearly cured. The medicine given was—℞. Vini Ferri ʒj, Liq. Arsenicalis ♏j, bis die.

If these mixed bullous eruptions are to be called pemphigus, the term pemphigus must be enlarged, and there seems to be no name which suits them better than "bullous hydroa" of Bazin. A somewhat similar though much more formidable eruption is the hydroa gestationis (sometimes called herpes gestationis), of which two cases have lately

[1] The present case (Louisa R—) was shown to the members of the Dermatological Society.

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been admitted to the department, though they do not come into this year's report.

A case of bullous and vesicular eruption, in a man aged 39, noticed in the report of the department for 1883, as "hydroa (?)" was evidently one of the same disease. This year I have put under the head of herpes a remarkable case which probably belongs to the same category (see below). All these are cases of *discrete* inflammation of the skin with *bullæ, vesicles, papular* or *erythematous patches,* these lesions being usually combined. For a disease of this mixed character the name of pemphigus is evidently unsuitable, herpes equally so, and that of hydroa, which I have used, is admissible only on account of its vagueness, though from another point of view this is an objection. There seems, therefore, room for a generalisation such as that of Dr. Duhring, of Philadelphia, who comprises a number of such cases under the head of Dermatitis herpetiformis. Without discussing the question whether this name is, etymologically, the best that could be found, I quite agree that it represents a pathological unity; and I believe all the cases I have here mentioned would be included by Dr. Duhring under it. Should Dr. Duhring's able classification be adopted it will be a valuable help towards the simplification of skin diseases.

## Lichen.

*Lichen planus.*—The five cases were (like the cases of last year) all females. Their ages were 38, 41, 47, 50, 63. The last case was attended also in 1883. The characters of the disease were typically shown in all.

*Lichen scrofulosus* or *scrofulosorum.*—This curious form of lichen, so distinctly described by Hebra, is decidedly rare in London, though cases occur from time to time among hospital patients, generally among those who are treated for other diseases than those of the skin. The case here reported was sent from the ophthalmic department.

Harry N—, æt. 7, a cachectic child, shows an eruption of pale, flat, scaly papules, sometimes aggregated into continuous patches. The surface of these

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patches covered with thin silvery scales, by no means so thick, as for instance, in psoriasis. No sign of exudation and no crusts. No complaint of itching and no sign of scratching. The distribution was very noticeable, the eruption being chiefly seen on the back, and there down the spine, extending also to the flanks, but not to the limbs.

It was noticeable that the papules were true papules, not papulo-vesicles, not showing any fluid when scratched, and not easily made to bleed.

The duration of the eruption was certainly some months, and probably longer, as it had not been much noticed.

The boy had enlarged lymphatic glands in several parts of the body; one chain about three inches long under the left pectoral muscle; others under the right pectoral, in the neck, and in the groins. These had been seen for some months. He had been subject to cough for some years, but there was no history of hæmoptysis. I have no note of the condition of the lungs, but believe they were examined and found natural. He had been treated in the eye department for "phlyctænular ulcers of the cornea." The boy's mother was stated to be dying of consumption. His father was not in very strong health, and was said to have had some kind of skin disease. The case was therefore a typical one of that chronic glandular inflammation, accompanied by cachexia, which is usually called scrofulous. The boy was treated with cod-liver oil and Vinum Ferri, and ordinary zinc ointment was used as a local application. In a fortnight the eruption was rapidly fading away, and he then ceased to attend.

It seems worth while to record this case at length because the eruption still often passes unrecognised in this country.

*Lichen simplex.*—This term can only be justified as a provisional diagnosis, and is here used for two cases, each of which was seen only once. It is therefore difficult to say what the eruption might have developed into. One is worth notice on account of its being alleged to have been produced by drinking cold water when hot. This explanation, so very generally believed in by the laity, is, I suppose, universally regarded by the profession as no better than an old wives' fable. I am not at all certain that this absolute disbelief is well grounded; but in the meantime cases bearing on the subject may be worth recording.

William S—, æt. 14, applied on June 11th, 1884, with an acute papular rash, accompanied by some erythema. It was seen on the outer aspect of the upper arm, on the scapular region, on the back; also on the sacrum and hips. It was absent from the hands, the feet, and on the flexor sides of the limbs altogether; as also from the face and head. There was a good deal of itching. The temperature was not high, there was no sorethroat, or any sign of measles or other

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exanthematic disease, and the patient did not feel ill, only complaining that he had slept badly owing to the itching of the eruption.

The history was that the rash had come out suddenly the evening before, and that the boy, being very hot, had previously drunk a large quantity of cold water. This was a typical case of what was called lichen by Willan. What the further course of the eruption might have been it is difficult to say; but the patient only attended once, when a cooling lotion of zinc and lead was given him. But as he did not come again I imagine that most probably the eruption went away.

### Lichen Circumscriptus, vel Circinatus.

In most of the patients affected with this disease the effect of wearing warm woollen clothing was very evident. Of the eight cases of men, four were in the habit of wearing a thick flannel vest all the year round, both day and night, without changing. A fifth wore a thick under-garment equally constantly, though it was made of cotton. A sixth did not at the time wear any flannel, but had just come out of prison, where he had warm woollen garments, and while there the eruption had appeared.

In another case (a man aged 44) it was impossible to trace any such relation, but this case was complicated with chronic eczema of the head, or rather the eczema was of several years' standing; the other affection of some months only.

The eighth case was that of a boy aged 12, and was in several respects different from the others, so that there may be some doubt as to whether the affection was really the same. Putting aside this case the influence of clothing in six out of seven cases was unmistakeable.

The comparative rarity of the disease in women I believe to be due to the fact that women seldom wear woollen underclothing. One case of the three females was, however, a typical one. A woman aged 30, suffering from pulmonary phthisis, with well-marked physical signs, was in the habit of wearing a *flannel* vest next the skin day and night, and

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came with a well-marked eruption of lichen circumscriptus, which had started from the spinal and sternal regions, and spread over the greater part of the trunk, and on to the thighs.

The other female cases were children, a girl aged 6, and an infant of 16 months. These were in some respects different from the others, and resembled that of the boy spoken of above. These cases I omit for the present.

Since this disease, though not very uncommon, is not always recognised, and its connection with clothing is ignored or denied by most authors, I will venture to quote a few more cases which came under my care for other diseases, in the general out-patient department, during 1884.

W. S—, æt. 57, robust man, with bronchitis. Eruption of lich. circ. on back and chest, wears flannel undershirt day and night.

H. E—, æt. 32. Man, with phthisis. The same eruption. Flannel day and night.

R. Y—, æt. 36. Man, with dyspepsia. The same eruption. Flannel day and night.

A. B—, a robust man, with rheumatism. The same eruption. Flannel vest day and night.

I might quote others and could also give several cases from the Blackfriars Hospital for Skin Diseases; but I think these will suffice to show that the eruption deserves the name of "flannel rash," as it is called by my colleague at the Hospital for Skin Diseases, Dr. Wyndham Cottle.[1]

Dr. Unna, of Hamburg, who has done me the honour to notice my Report of the Skin Department for 1883, in the 'Monatshefte für Praktische Dermatologie' (August, 1885), states that he has only lately identified the lichen circumscriptus of English writers with an affection which he has been in the habit of calling "eczema flavum," and of which he has found no adequate description published. He thinks

[1] The connection of lichen circumscriptus with flannel or other woollen garments appears to be an observation which has become traditional at the Hospital for Skin Diseases, though by whom it was first made I cannot say. It may be worth while to point out that the best picture of the disease, and indeed the only good one, is contained in Erasmus Wilson's 'Portraits of Diseases of the Skin,' 1855, Plate A D, where it bears the name *Lichen annulatus serpiginosus*, with the synonym *Lichen marginatus*.

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a name proposed by Lailler "eczema acnéique" much more suitable. There can be no doubt that the name which we give to this affection is a very bad one. There is little resemblance between this and other diseases called "lichen," and to denote it as a species of the genus lichen is to perpetuate the unfortunate superstition that every skin disease must have a name modelled on the Linnean botanical terminology. But the number of skin diseases which are so fortunate as to possess an appropriate name is not large, and after all the name does not much matter, provided that it is not taken for a definition. Since this disease is certainly not either lichen or eczema, I would suggest, that as a perfectly neutral name that it might be called *Circinaria*.

Dr. Unna further calls attention to the relations of this malady with eczema, and speaks of cases in which it has, by extension, led to general and very severe outbreaks of eczema. This has not come under my observation; but in three of the cases reported this year there was a complication with eczema. It was, however, in all three eczema of the scalp, and in one of them it was rather that there had been eczema, the condition of the scalp at the time being simple seborrhœa. Furthermore, in a large number of the cases, certainly more than half, there was *seborrhœa of the scalp*. But true eczema of any other part of the body I have not seen.

Dr. Unna further speaks of the disease as "without doubt parasitic," but he does not name the parasite producing it. I have also a strong conviction that the disease *must be* parasitic; but I can say with some confidence that it is not possible to find in this disease the fungus of tinea versicolor or that of tinea circinata. Scales merely scraped from the surface show no fungus whatever. However, results obtained lately by a different method of investigation lead me to the belief that there is a vegetable parasite, of which I cannot say more here.

The three cases of children mentioned above, a boy of 12, a girl of 6, and an infant, belong to a type somewhat different from the cases just described, with respect to which I do not feel certain whether it is identical with the disease now spoken of or not. In this type the patches are more

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scattered, not occurring on the trunk alone, but on the limbs. The appearance is more like the pityriasis circinata of Vidal (and apparently the pityriasis rosacea of Gibert means the same thing), the patches being scaly, and not always ringed, but sometimes continuous, looking like a very slight form of psoriasis. The same form occurred lately in a medical student. These cases are more obstinate, do not yield so readily to local treatment, but get well with arsenic. The connection with wearing woollen clothing is not clear. Further observations are therefore required to show whether these cases come under the present head or not.

## Herpes.

Under this head I have placed as *Herpes generalis*, a peculiar case which, as I have stated above (p. 009), would probably come under the category of *Dermatitis herpetiformis* as defined by Dr. Duhring.

Henry A—, æt. 3, was brought February 7th, 1884, with a vascular and pustular eruption, which covered the outer side of the left thigh and extended over the crest of the ilium and on to the left flank and loins, where it formed an irregular band several inches wide. On the whole of this surface the skin was red, hot, hyperæmic, and infiltrated, or somewhat indurated and thickly beset with pustules, which were not unlike in appearance to those produced by some "pustulant," such as croton oil. It is probable they were vesicular in the first place, but they were very much larger than vesicles of eczema, being perhaps about one eighth of an inch in diameter. There were no large bullæ. Outside the large patch were some scattered pustules. The arrangement of the spots suggested for a moment herpes zoster, but that disease never forms broad continuous patches extending over half the trunk and down one thigh; and moreover, it was at once excluded by the presence of other patches. On the right side of the trunk was a similar and nearly symmetrical, but less advanced, patch of disease, the skin being thickened and hyperæmic, with some indurated pustules or vesico-pustules. There was one pustule with an indurated base on the right arm, but none anywhere else on the body. The child was well nourished, and appeared to be in fair health, the only complaint being of constipation. There did not appear to be much itching, as the spots showed little or no signs of scratching.

*History.*—The eruption was said to have begun six weeks before, "like a rash," *i.e.* with redness of the skin, and had increased gradually, but had got rapidly worse within the last two days. The child had had no other skin affection except that when one year old he had suffered from a "sore head," probably eczema

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For some reason not clearly explained he had never been vaccinated. There was no history pointing to syphilis either in the child or in the parents.

*Treatment and Progress.*—As there was no indication for any special treatment nothing was ordered but a simple lead and zinc lotion and a dusting powder. The next week the eruption was decidedly better and appeared to be fading. Unfortunately the child was not brought again, but as his mother attended at another department of the hospital, I learned two or three weeks afterwards that the eruption had not quite disappeared though it was much better.

*Cause.*—It was impossible to attribute this curious affection to any external irritation. It was stated that some ointment had been used at first, but for a fortnight before the child came to the hospital no application whatever had been used. No internal medicine had been given, so that it could not be referred to bromide or iodide of potassium, &c. There was no internal disease with which it could be connected. It must therefore be regarded as an independent affection of the skin. In its external characters it agrees most nearly with the impetigo herpetiformis of Hebra, but differs from that disease as generally described in its clinical characters. Hebra's disease is said to be attended by severe general disturbance, and to have been in almost every case fatal; whereas in this case there was no great constitutional disturbance, and when last seen the patient appeared to be on the way to recovery. Dr. Duhring claims impetigo herpetiformis as one of the forms of his dermatitis herpetiformis; and if his generalisation is to be accepted, this case will certainly come under the same head. I only regret that there was not time to observe the case more fully.

## Tinea.

The cases of ringworm were as numerous as usual, and for the most part presented no novelty. One well-marked case of tinea tonsurans in an adult man is worth noting, since not only is this rare, but the strange theory has even been put forward that this affection cannot exist in adults, but that it is represented by alopecia areata. It is quite true that we see tinea circinata in adults much more frequently than tinea tonsurans, and that the former when it occurs on the face or the nape of the neck may come up to the hairs, or even spread under them for a certain distance without actually affecting the hairs themselves. But this only shows that the strong neck hairs of an adult are less easily attacked by the parasite, not that they possess any positive immunity. The case was as follows:

Edward G—, æt. 23, brushmaker, presented himself with several patches of tinea on the face and neck. In addition there were two or three bald patches on the head, covered with scales and showing broken hairs. Under the microscope

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the hairs showed the *Trichophyton tonsurans* in abundance. The duration of the disease was two months. A well-marked history of contagion was obtained. The patient's brother had "ringworm of the beard" (tinea sycosis), and from him it was believed to have been caught. The brother had acquired it apparently from his children, who had ringworm of the head. One of the patient's own children afterwards got tinea circinata of the skin. This case was easily cured. After one application of the paint of chrysarobin in gutta percha, spoken of above as used in psoriasis, it was treated with ointment of eucalyptus (paraffin and vaseline each 2 ounces, oil of eucalyptus 1 ounce—Martindale). In three weeks the patches on the head were well and those on the skin nearly so, and the patient did not come again.

The eucalyptus ointment has proved itself useful in several cases of recent ringworm of the head. A boy, five years old, came on November 12th, 1884, with several patches of ringworm on the head of three days' duration. He was treated with eucalyptus ointment only, and on December 24th was discharged cured.

But it is fair to say that ringworm of the head in adults when it does occur is generally easily cured, and may apparently get well spontaneously. In such a case bald or partly bald patches may be found, in which the fungus has destroyed the hair, but has itself disappeared. This happened in the case of a governess, who had charge of two little girls under my care for ringworm. She showed a scaly bald patch on one side of the head with broken hairs, in which however I could detect no fungus whatever. It soon got well.

## Acne.

Under this head has been placed an uncommon case which might more correctly be called one of an eruption of comedones.

William B—, æt. 13, admitted February 20th, 1884, a healthy lad of robust appearance, who, however, complained of indigestion. He presented across the upper part of the forehead, and in the adjacent part of the hairy scalp, an eruption of sebaceous plugs or comedones, thickly clustered together. They were blackened at the outer extremity, easily pressed out, and precisely resembled the comedones usually seen on the nose or other parts of the face. A few of them were inflamed and formed small pustules. They were not strictly like acne pustules, as there was no induration round them, and presented no resemblance whatever to the acne varioliformis (also called A. frontalis), of which a case was

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reported last year. The skin around them was oily from sebaceous secretion. Where the comedones were scattered among the hair, most of the hairs were quite unaffected. In a few instances a sebaceous plug was found in the same follicle with a hair. It was clear that the cause was excessive production of sebum, not, as is sometimes said, obstruction to its excretion, since the mouths of the follicles were abnormally wide and not obstructed. The next remarkable point in the case was the distribution, the comedones being strictly confined to a transverse band on the forehead, &c., about two or three inches wide. There was no sign of acne, and absolutely no trace of comedones on the face, in the ordinary situations, the boy's skin being generally quite healthy. The duration of the eruption was six weeks. The boy was a native of Plymouth, but had been in London three months.

A careful microscopical examination was made of the sebaceous plugs, but no kind of parasite was found in them—neither *Demodex folliculorum*, nor mould-fungus, nor any notable form of bacillus or micrococcus. There was not the least suspicion of irritation from any local cause, such as the lining of the hat, so far as I could make out. The boy was above the usual class of hospital patients, and scrupulously clean in his person and clothes. Vigorous washing with soap and the application of dilute citrin ointment soon cured the complaint.

Several cases of this curious affection have been lately observed in London. When I showed this patient to the Dermatological Society, a similar case was shown by Dr. Stephen Mackenzie from the London Hospital, and since then others have been shown. I have myself seen two other cases.

One is that of a little girl, aged 10, now under treatment for ringworm. She presented herself one week with a band of comedones across the forehead partly under and partly outside the hair, precisely as in the boy just spoken of. There were no comedones or acne of the face. The eruption could hardly have been caused by the ringworm ointment, as under the continued use of that the comedones rapidly departed, and the next time none were to be seen. One other case came under my notice, the notes of which I cannot find.

It is very remarkable that, if this be a definite affection, it should apparently never have been observed or at least described till lately. But it was generally admitted by the members of the Dermatological Society that this affection has only been noticed within about two years past, and appears not to have been seen up to the present time, except in London.

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What the cause may be is uncertain. It is difficult to think of any internal cause which could produce excessive sebaceous secretion at a limited area of the head. If there is no external parasitic cause, one thinks of the possibility of some irritant substance being used in the linings of hats and caps. But this supposition would not quite agree with the facts; and moreover such a substance would rather produce something in the nature of eczema. The situation at once suggests a comparison with acne varioliformis, also called by the Germans acne frontalis; and though the appearance is very different in the two affections, it has struck me forcibly that the latter one (which we usually see in a chronic state) may possibly represent inveterate cases of our disease. In any case, I cannot explain why cases such as that here described should only recently have been observed.

## Lupus.

Several cases during the past year have been treated by a local application of perchloride of mercury. This application was suggested by Prof. Doutrelepont, of Bonn (Monatshefte für Dermatologie, Jan., 1884), with the object of destroying the tubercle bacilli which have been found in lupus. This may be thought a theoretical reason, considering that the bacilli, though found in lupus, are generally present in very small numbers. But there is after all every reason to consider lupus as a local infective tuberculosis, and the employment of parasiticides seems a rational treatment. What is more important, it seems a practically useful one, as I have found it in several cases. The method first adopted was that recommended by Doutrelepont, viz. keeping the surface covered with a watery solution of corrosive sublimate applied on lint, and covered up with oil silk or gutta percha. This method, however, is, for obvious reasons, not easily applicable to outpatients. I then tried a sublimate solution mixed with glycerine to prevent evaporation, to be applied several times a day, so as to keep the skin moist with it. This did good, but I could never be sure that it was kept constantly applied. Accordingly, recourse was

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had to another method of bringing the remedy in contact with the skin, viz. by dissolving it in collodion. This was found to produce in a satisfactory manner the results reported from the remedy.

The effect, in whatever way the local treatment is carried out, is: (1) Points of suppuration appear in the lupus tissue, or a moist excoriated surface is produced; (2) this heals and the lupus in that part is wholly or partially cicatrised, so far as the remedy has acted. In superficial patches complete destruction of the lupus tissues is effected; in thick masses the destruction is only partial. The process is sometimes painful; sometimes no pain is complained of.

The strength of solution employed was in the first instance that recommended by Doutrelepont; viz. $\frac{1}{10}$ per cent. or half a grain to the ounce. Afterwards the strength was gradually increased up to four grains to the ounce (Hyd. Perchlor. gr. iv, collodion ℥j).

It should be said that the cases in which this method was used had mostly been treated by scraping or other surgical methods, and only scattered patches of no great size remained. These patches were, however, in some instances completely destroyed, in all very greatly improved. It was used also in two cases of extensive lupus of many years' standing, where scraping or any similar method was objected to.

Charles C—, æt. 12, was admitted with a large raised red patch covered with scales, extending over great part of the left cheek. Typical lupus, without ulceration. He had been treated, and on one occasion had, I believe, been scraped. On April 2nd a lotion of perchloride was ordered, which was gradually increased from a quarter of a grain to two grains in the ounce. There was immediate improvement, and in a month it was noted that the infiltration had disappeared, and a great part of the patch was quite healed. In July it was very nearly healed, but the anterior margin was still infiltrated and had some raised tubercles. This part required more energetic treatment than the patient was willing to submit to, and I cannot report it as absolutely cured.

Emily H—, æt. 8, had a patch of lupus, half an inch by three quarters, on the left cheek, of two years' standing, never treated. It was first cauterised with nitrate of mercury, then treated with sulphurous acid, and finally with solution of perchloride. After three weeks of local treatment the patch appeared to be completely destroyed, and the child was not brought again. But whether it was permanently cured I cannot say.

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In another case under treatment this year where large superficial patches were left after a scraping operation, a complete cure was effected.

On the other hand, in two cases of inveterate lupus in women, of thirty years' standing, not very much good was done.*

## Lupus Erythematosus.

The extreme obstinacy of this affection makes it perhaps worth while to note one case which was completely cured.

Mary J—, æt. 43, widow, presented herself with a raised patch on the nose, which she had had for two years and a half. It was red, raised, and covered with closely-adherent greasy scales, and showed underneath a coarse-grained morocco-like surface. There were also many sebaceous plugs. The central parts were depressed and showed destruction of tissue, but there was no proper ulceration; also there were no outlying tubercles. The sore was three quarters of an inch in the longest diameter, and very little less in the other. In its appearance it was a typical form of lupus erythematosus. There was no patch elsewhere. The history was that it had begun two years before with a small pimple, and had been getting rapidly worse for six months. The patient's health was good, she had never had any serious illness. She had been a widow a year and a half. There was no family history of consumption or any other disease, patient's family being described as healthy. Her husband was supposed to have died of heart disease. She had two daughters, both of whom were delicate and supposed to have something the matter with the heart. The patient, I should say, though she complained of nothing, was delicate looking and thin. The patch was first treated by washing with spiritus saponatus kalinus, and an ointment containing iodoform. On May 7th cauterisation with acid nitrate of mercury was commenced, and continued nearly every fortnight till the middle of July. After this the patient was not seen for a month, and then the treatment was again interrupted by an attack of diphtheria. At the end of September the greater part was healed, and on October 8th the patient was pronounced cured, three years from the commencement of the disease. Doubtless had it been possible to carry on the treatment without interruption, a speedier cure might have been effected. The only internal medicine given was a mixture of iron and quinine.

Limited patches of lupus erythematosus, with a marked sebaceous character, as in the present case, seem rather amenable to treatment. I have had at least three lately which have been completely cured. It is, unfortunately,

* This method of treatment, however useful, is by no means better than removal of the diseased tissue by scraping, which I still believe to be by far the best treatment in the first instance.

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quite otherwise with extensive or multiple eruptions of the same disease, in which the erythematous character predominates. Their cure is exceedingly difficult, and sometimes appears hopeless.

In conclusion, I have to thank my assistants, Dr. Glover Lyon and Mr. S. Plowman, for their help; and the latter for extracting the numbers from the hospital books.

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# A NOTICE

OF THE MORE INTERESTING OF THE

# ADDITIONS MADE TO THE MUSEUM DURING THE PRECEDING YEAR.

By SAMUEL G. SHATTOCK,
CURATOR OF THE MUSEUM.

The following short account has been written at the request of the Editors, with a view of bringing under notice the more important additions that have been made to the museum during the past year. The interest of some of these is purely pathological; mostly, however, they have equally a clinical and a pathological interest.

*A Series of Biliary Calculi,* S 94[1] *to* S 94[10]. (Dr. Ord.)

These specimens illustrate all the varieties of such calculi, and include some of pure cholesterin, others of bile-pigment, and many of the commoner mixed forms.

One of the most noteworthy (S 119[5]) is a smal spheroidal calculus of phosphate of lime, which was formed in a gall-bladder from which bile had been excluded by the pressure of a tumour on the cystic duct.



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As having the interest of curiosity may be noticed also a specimen of which a second calculus forms the nucleus; other calculi of usual construction were present in the same gall-bladder.

*Missiles from the Franco-German War*, A 157 *to* A 163.
(Sir William Mac Cormac.)

These comprise bullets variously altered in shape, as well as fragments of shell and leaden shell-casing, extracted under various circumstances. Most are noticed in Sir William Mac Cormac's 'Notes and Recollections of an Ambulance Surgeon,' where the more remarkable are figured. By Sir William Mac Cormac's kindness these figures are reproduced, and the specimens they represent may be individually referred to.

Fig. 1.—A Chassepôt bullet which struck a young Prussian soldier a little outside the left wing of the nose. The ball was extracted three days afterwards by an incision made in the middle of the posterior border of the right sterno-mastoid. Hæmorrhage occurred on the eleventh day. The common carotid was tied on the right side, and the hæmorrhage arrested. Death occurred five days later from double pneumonia.

Fig. 1.

Fig. 2.

Fig. 2.—A Bavarian bullet which caused a comminuted fracture of the right femur, a little below the middle. Amputation by oval incision of the skin and circular of the muscles. On the fifteenth day tetanus appeared, and the patient died. The ball was buried in the femur, and crushed like a piece of clay against a wall.

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FIG. 4. FIG. 3. FIG. 9.

Fig. 4.—A Prussian needle-gun bullet, which entered a little below the anterior superior spine of the ilium, striking the bone obliquely. It was extracted from the buttock, the bone was not fractured, nor apparently struck. The patient recovered rapidly.

Fig. 3.—A Prussian needle-gun bullet, which penetrated the chest. It was removed by a counter-opening from beneath the skin. It contains embedded in it a fragment of rib.

Fig. 9.—A Bavarian bullet which had fractured the femur and was extracted with portion of the bone buried in it.

*Two Specimens of Actinomycosis of the Liver*, S 12[1], S 12[2]. (Dr. Bristowe, Dr Harley).

As no example of this disease in man has hitherto been recorded in England these specimens may be noticed with some detail.

One of them was obtained from a young woman, admitted under the care of Dr. Bristowe, March 25th, 1884. Her illness dated from about six weeks before admission, when she complained of her stomach always feeling full, not increased after food. This continued for about three weeks since, when she suffered from severe pain in the left side, and sickness. Whilst in the hospital pleurisy and peritonitis supervened, and the patient died.

After death, besides the lesions due to acute pleurisy and peritonitis, no material disease was noticed except in the liver. The liver on section was found to be full of abscesses, mostly of the size of a cherry or walnut; whilst at the posterior border of the right lobe was an abscess as large as the fist—a honeycombed or tunnelled mass of hepatic substance,

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the meshes of which are composed of tough white fibroid tissue, and enclose pus in which the microscope revealed the presence of considerable collections of the ray-fungus (actinomyce) characterising the disease.

The second case of actinomycosis occurred during the latter end of the same year (1884) under the care of Dr. Harley. The liver was the organ chiefly affected, but there was in addition an abscess round the vermiform appendix, and from this a suppurating track extended up to the liver. The lesion in the liver is in a less advanced stage than in the preceding case; there is a large actinomycotic tumour, about three and a half by four and a half inches, in the upper and posterior part of the right lobe. The mass is composed of an alveolar framework of fibroid tissue, the meshes of which are filled with leucocytes, in which are embedded the minute "cores" of the parasite. Disseminated in the surrounding parts of the liver are other foci collected in groups of various sizes, and similar to those of which the chief mass is an aggregate.

The pathology of actinomycosis was first described in cattle by Bollinger in 1877. The disease was first described in man by Israel in 1878, but its identity with that of cattle was established afterwards by Ponfick. Altogether there are recorded up to the present time forty-three examples, all of which are confined to German literature. Although, however, the discovery is so recent it would be hazardous to say that actinomycosis is a new disease. In cattle it appears to have been passed by, under various names, as examples of other diseases to which it bears certain general resemblances; and there is in the museum of St. Thomas's Hospital a specimen of it (S 12), at least thirty years old, which was called at that time "scrofulous disease," or tubercle of the liver. This last specimen was obtained from a girl, fifteen years of age, who in addition to the abscess of the liver had "scrofulous disease" of various organs, especially the ovaries and Fallopian tubes. Israel, who has quite recently collected all the published cases of actinomycosis in man, has added much to their clinical interest by tabulating them according to the entrance-site of the fungus. The most frequent site of infection is the mouth and pharynx, but infection

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may occur by the respiratory or by the intestinal track, the lesions varying in correspondence.

In both Dr. Bristowe's and Dr. Harley's case the infection occurred from the intestine. This is clear in the second case, from the existence of the abscess around the vermiform appendix, and the abscess extending from this up to the liver. In Dr. Bristowe's case no lesion of the intestine was observed after death; it is recorded, however, that there were old adhesions between the pelvic viscera, and it may be provisionally assumed that the original site of infection was in the intestine, and that this was obscured by a subsequent repair. There is good reason for believing that spontaneous cure may occur in the intestinal lesions of actinomycosis, as it certainly does in some cases of intestinal anthrax, the essential pathology of which is the same. The first of these two cases is reported in the 'Pathological Society's Transactions,' 1885.

*Ulceration of the Small Intestine occurring during Paraplegia,* Q $42^1$, $42^2$, $42^3$. (Dr. Acland, 'Pathological Society's Transactions,' 1885.)

A careful clinical analysis, by which typhoid was excluded, made it highly probable that the lesion in this case was due to the altered innervation of the intestine and resulting distension.

The following short note has been furnished by Dr. Acland:

H. C—, æt. 37, had syphilis fifteen months before, followed by iritis, eruption, &c.; from this he recovered. Two days before admission he felt some pain across the loins, and twenty-four hours before he was seen there had appeared some numbness of the lower extremities, which soon passed into complete paraplegia, the line of anæsthesia extending round the nipples. There was at first complete retention of urine and fæces, and the abdomen was enormously distended and tympanitic. Death occurred on the eighteenth day of the attack without relief of symptoms.

*Post-mortem.*—There was a superficial bedsore on the

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nates; the abdomen enormously distended. The spinal cord was pulpy about the level of the fourth dorsal vertebra; postero-external columns very grey and standing out well from the rest of the section. The external surface of intestines was covered in patches with sticky lymph and the bowel was dark, in places almost black, and was easily lacerated. On its mucous surface were patches varying in size from one eighth to one and a half inches in diameter, which were dark and surrounded by injected vessels. They were situated on the side away from the attachment of the mesentery, and seemed to occupy by preference Peyer's patches; some were nearly circular, some elongated in the direction of the intestine. Just above the cæcum was a considerable area of them; there was only one small patch in the colon, but the mucous membrane was much injected. Even in the earliest stage there was apparently no inflammatory swelling around the spots, which seemed to commence as minute shallow erosions and by coalescence formed the larger patches; even in these there was little swelling; no sloughs were found adhering to the surface, nor was there any attempt at cicatrization. Nothing abnormal was detected in the other viscera. The microscope threw no light on the nature of the ulceration. The spinal cord showed simple softening without inflammation, and the ascending and descending degeneration was not well marked.

*Cysticerci of the Brain*, N 101[6]. (Dr. Gulliver.)

There were about twenty scattered through the cortex of the cerebrum, two or three connected with the pia mater, and one in the pons.

From a woman, æt. 45, who was suddenly seized with convulsions of all the limbs whilst in the hospital, and became comatose; a succession of fits followed the first, and death occurred within twelve hours. There had been no cerebral symptoms before admission.

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*Spina Bifida*, L L 5[1]. (Dr. Maclean, of Portland, through R. W. Parker, Esq.)

This specimen, from a fœtus at term, illustrates very well the most usual anatomy of this malformation.

The protrusion occupies the lumbo-sacral region; the spinal cord crosses the interior of the sac, with the posterior wall of which it afterwards becomes incorporated. From the incorporated or intramural portion of the cord the nerve-roots arise, and pass forwards through the cavity to reach their proper intervertebral foramina. The fluid is contained in the subarachnoid space. There is no true skin over the median portion of the sac, this portion of the sac wall with which the cord is incorporated being thin and membraniform.

This anatomical disposition is by far the most common of all the forms of spina bifida. The other and rarer forms may be classed in two categories. In one of these the protrusion consists of the spinal membranes only (spinal meningocele); in the other the cavity of the sac corresponds with a dilatation of the central canal of the cord. In spinal meningocele, the cord and nerve-roots are uninvolved in the sac, the neck of which is at the same time comparatively small. In the other form (syringo-myelocele) the nerve-roots, instead of traversing the cavity of the sac, pass round in its wall between the distended pia mater and arachnoid, to reach their respective intervertebral foramina; this form is rare. The comparative harmlessness of meningocele and the facilities it offers for treatment by various methods are obvious. Both the other forms are considerably graver by reason of the implication of the spinal nervous system. It is of considerable clinical importance, therefore, to diagnose between simple meningocele and the more serious lesions in which the spinal nervous system is involved.

Often the implication of the cord and nerve-roots in the protrusion is shown by more or less paralysis of the lower limbs, incontinence of urine, or want of control over the rectum. The presence of a central depression or umbilicus, or the presence of a vertical median or of lateral furrows, are also certain indications that the spinal nervous system is

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incorporated with the sac wall. But apart from such signs there seems very little by which a diagnosis can be effected. I have suggested the trial of electrical stimulation as a means of diagnosis in doubtful cases. If the spinal cord and nerve-roots are involved, *i.e.* incorporated with the median portion of the posterior wall of the sac, or if the cavity of the protrusion is produced by a dilated central canal, stimulation of the sac wall would, it may reasonably be presumed, excite muscular contraction in the lower limbs, and a sense of pain in and extending from the tumour.

The most feasible method of proceeding would probably be to apply both rheophores to the surface of the sac, placing one in the middle line and the other at different points on one or other side so as to directly stimulate the nerve-roots.

*A Specimen of Spina Bifida, macerated,* LL $12^3$, Plate II.

This specimen, the skeleton of the head and trunk of a fœtus near term, shows a deficiency of the neural arches in the lumbo-sacral region and affords one of the best examples of the rare condition in which an additional osseous or osseo-cartilaginous element crosses the vertebral canal immediately above the fissure. By the kind permission of the Council of the Clinical Society a figure of this specimen is reproduced from the Report on Spina Bifida which has recently been drawn up by a Special Committee of the Society.

The specimen is fully described in that Report, to which reference may be made for a full exposition of the pathological anatomy of spina bifida and its most appropriate treatment ('Transactions of the Clinical Society,' 1885). There is a second example of this condition at the Royal College of Surgeons, London, a third at St. Bartholomew's, a fourth in University College, and a fifth in the Musée Dupuytren, Paris.

Under such circumstances, the spinal cord is bifid from above the intersecting bony process, or, what is highly remarkable, the two portions of the cord may reunite below it so that the cord offers a complete perforation.

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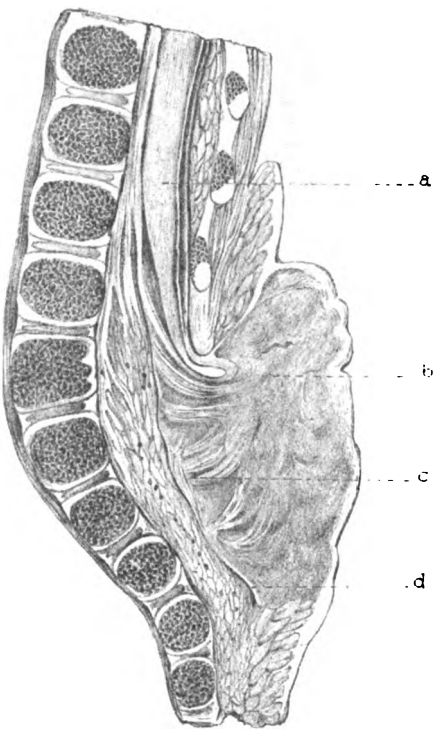


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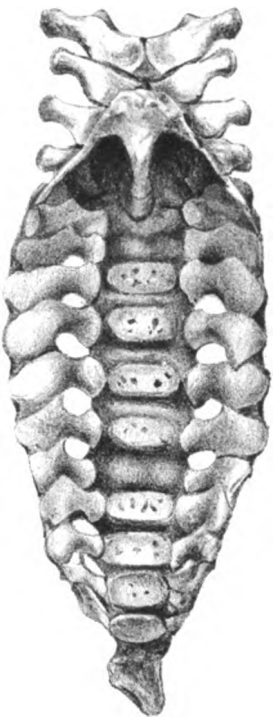

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*Two Specimens illustrating the Mode of Cure of Spina Bifida by the injection of Morton's Iodo-glycerine Solution,* LL $13^1$, LL $13^2$. (R. L. Parker and C. A. Ballance, Esqs.)

In both specimens cure has resulted from the filling of the sac with young connective tissue, amid which the nerve-roots traversing the sac lie embedded.

By permission of the Council of the Clinical Society a figure of Mr. Parker's specimen is reproduced (Plate III). Externally there is a deep puckered depression at the centre of the sac, over which the cuticle is smoother and more shining than around. The sac is represented by a mass of connective tissue sharply bounded in front by the dura mater; the spinal cord crosses the highest part of the obliterated sac; in the lower part there are sections of nerve-roots passing towards the intervertebral sacral foramina. No paralysis existed. The sac was injected four times. The first three injections were practised within a month, no alteration occurring in the tumour. The fourth injection was followed by rise in temperature and some retraction of the head. Without altering much in size, the tumour became quite solid, a little spontaneous oozing taking place previously. Seven weeks from the first injection and three weeks after the fourth, the child one day became collapsed, but rallied under the administration of stimulants. A month after leaving the hospital it was found dead in bed one morning, having probably been overlain.

The tumour is lumbo-sacral in position, and was membranous over its centre. From a female child six weeks old.

In Mr. Ballance's case the protrusion had discharged since birth; the discharge ceased immediately after the injection of Morton's fluid. Four days after the operation the lower limbs had become paralysed, and double talipes calcaneus arose, together with incontinence of urine and fæces. All these symptoms disappeared eighteen days after the date of the injection.

The child, who was three and a half years of age, died five weeks after the operation with rapidly increasing hydrocephalus.

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*A thickly-walled Cyst successfully removed from the surface of the Small Intestine*, Q 34[3]. (Sydney Jones, Esq. 'Pathological Society's Transactions,' 1885.)

The cyst is about three and a quarter inches in diameter and contained a fluid like thick white paint; the latter microscopically consisted of molecular fat and crystals of cholesterin; no echinococcus hooklets were found in the specimens of fluid examined.

From a married woman, æt. 35. Five years before admission she was affected with jaundice, ascites, and swelling of the legs. The jaundice lasted for two years, and the dropsy for five years. The tumour was noticed on the subsidence of the dropsy, and was very tender and painful.

Abdominal section was performed antiseptically, on Jan. 21st, 1885. The cyst was sessile, and attached in the left hypochondriac region, its base covering a third or half of the peritoneal surface of the intestine, from which it was peeled. Recovery was complete.

*A Specimen showing Impaction of a Halfpenny in the upper end of the Œsophagus of a Child*, O 18[1]. (Dr. Sharkey, 'Pathological Society's Transactions,' 1885.)

The child died more than a year afterwards from double pneumonia, the foreign body having produced no local symptoms of any note. The halfpenny has partially escaped by ulceration through the anterior wall of the œsophagus.

*A Group of Vesico-vaginal Calculi*, BB 50[2]. (H. H. Clutton, Esq., 'Pathological Society's Transactions.')

The calculi formed after the establishment of a vesico-vaginal fistula three years previously in consequence of a difficult parturition. The entire group was successfully removed per vaginam after slight enlargement of the fistula with a bistoury. The vesical calculi consist of ammonio-

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magnesian phosphate, and phosphate of lime with a trace of uric acid; the vaginal calculi, of ammonio-magnesian phosphate.

*A Larynx showing Fracture of the Superior Cornua of the Thyroid Cartilage,* W 6[1]. (From the dissecting room, through Dr. Reid, 'Pathological Society's Transactions,' 1885.)

On one side the fragments are united by bone after slight overlapping, on the other they are united by fibrous tissue without displacement. The hyoid bone and the other laryngeal cartilages were uninjured.

SAMUEL G. SHATTOCK, *Curator.*

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# REPORT OF

# THE OBSTETRICAL DEPARTMENT

## FOR 1884.

By ROBERT CORY, M.A., M.D.

The Resident Accouchеurs for the year were Messrs. W. S. Sheppard Wansbrough Jones, Orford, and Hull.

From the 1st of January, 1884, to the 31st of December, 1884 (both dates inclusive), 2186 women were attended. Of these, 2161 resulted in single births and 25 in twins. There were 7 cases of abortion among the single births and 2 among the twins.

In the following table the presentations of the children are classified:

| | Among the 2161 single births. | | Among the 25 cases of twins. |
|---|---|---|---|
| Vertex | 2108 | ... | 13 |
| Breech | 26 | ... | 7 |
| Superior extremities, including the shoulder | 5 | ... | 1 |
| Head and arm | 4 | ... | 1 |
| Inferior extremities | 6 | ... | 6 |
| Mixed, in which both inferior and superior extremities presented | 1 | ... | 0 |
| Face | 4 | ... | 0 |
| Abortion | 7 | ... | 2 |
| Not stated | 0 | ... | 20 |
| | 2161 | ... | 50 |

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Of the 2186 cases attended,

| | | | |
|---|---|---|---|
| 325 | were 1st confinements. | 41 | were 10th confinements. |
| 354 | „ 2nd „ | 36 | „ 11th „ |
| 333 | „ 3rd „ | 14 | „ 12th „ |
| 270 | „ 4th „ | 16 | „ 13th „ |
| 262 | „ 5th „ | 3 | „ 14th „ |
| 191 | „ 6th „ | 2 | „ 15th „ |
| 141 | „ 7th „ | 2 | „ 16th „ |
| 122 | „ 8th „ | 1 | was 18th confinement. |
| 73 | „ 9th „ | 2186 | |

The following table shows the number of women confined at each consecutive year of life; the youngest mother being 16, and the oldest 49 years of age.

| At the age of | No. of women confined. | At the age of | No. of women confined |
|---|---|---|---|
| 16 | 1 | 34 | 81 |
| 17 | 10 | 35 | 54 |
| 18 | 27 | 36 | 56 |
| 19 | 59 | 37 | 49 |
| 20 | 88 | 38 | 42 |
| 21 | 113 | 39 | 41 |
| 22 | 112 | 40 | 39 |
| 23 | 127 | 41 | 20 |
| 24 | 161 | 42 | 18 |
| 25 | 128 | 43 | 9 |
| 26 | 136 | 44 | 7 |
| 27 | 126 | 45 | 3 |
| 28 | 139 | 46 | 2 |
| 29 | 122 | 47 | 0 |
| 30 | 120 | 48 | 0 |
| 31 | 78 | 49 | 1 |
| 32 | 102 | Not stated | 32 |
| 33 | 83 | | 2186 |

The forceps were used in 50 cases. The reasons given for their use may be tabulated as follows:

| | | |
|---|---|---|
| Delay at the brim of the pelvis | 12 | 8 from contracted pelvis.<br>1 large head.<br>4 faulty position of head.<br>4 not stated. |
| Delay at outlet | 13 | |
| Tedious labours | 19 | |
| Delay of after-coming head | 1 | |
| Prolapse of cord | 2 | |
| Placenta prævia | 3 | |

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There were 15 cases of primiparæ among the 50 forceps cases. This gives a percentage of 30; the general percentage of primiparæ being 14·8 to all cases. Rupture of the perineum took place in 5 out of the 50 cases, all of which were 1st confinements.

In 10 of the forceps cases the children were stillborn, but only 3 of these were uncomplicated cases.

## Cases of Version.

Podalic version was resorted to in 5 cases, all of which were so treated on account of the presentation of the superior extremities including the shoulder. All the children were stillborn.

## Placenta prævia.

There were 7 cases of placenta prævia among the single births, the particulars of which are stated in the table below:

| No. | Age. | Confinement. | Sex. | Result to Child. | Treatment. | Result to Mother. |
|---|---|---|---|---|---|---|
| 999 | 24 | 4th | F. | Living | Not stated | Living. |
| 1202 | 25 | 4th | M. | Stillborn | „ | „ |
| 1423 | 39 | 9th | F. | „ | „ | „ |
| 1632 | 41 | 8th | M. | „ | Forceps | „ |
| 1749 | 28 | 3rd | F. | „ | Not stated | „ |
| 1975 | 36 | 8th | M. | „ | Forceps | Died 30 minutes after birth of child. |
| 2082 | 31 | 9th | F. | „ | „ | Living. |

The breech presented in 26 cases among the single births, which gives a proportion of 1 in every 83 births. In 13 of

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these cases the children were stillborn, which is equivalent to a death-rate of 50 per cent among the infants.

Four maternal deaths occurred during the year. The following table gives particulars:

| No. | Age. | Confinement. | Sex of child. | Result to child. | Date of death after childbed. | Causes. |
|---|---|---|---|---|---|---|
| 1893 | 28 | 7th | F. | Stillborn | 8 days | Septicæmia. |
| 1975 | 36 | 8th | M. | „ | ½ hour | Placenta prævia, hæmorrhage. |
| 857 | 18 | 1st | M. | Living | Same day | Convulsions. |
| 306 | — | 6th | F. | „ | 4 days | Broncho-pneumonia (not septicæmia). |

Of the Children.—The number of children born among the 2186 women attended during the year was 2211; there being 25 cases of twin births. Of these, 1089 were females, 1118 were males; the sex of 4 were not stated.

There were 75 stillbirths, or 1 stillbirth in 29·1 labours, or 3·4 per cent.

The characters of the labours in which the stillbirths occurred are given below:

| | |
|---|---|
| Natural labours, including cases of intra-uterine maceration | 29 |
| Abortions | 7 |
| Uncomplicated forceps cases | 3 |
| Breech | 13 |
| Placenta prævia | 6 |
| Twins | 8 |
| Presentations of upper extremities | 3 |
| Presentations of lower extremities | 5 |
| Prolapse of cord | 1 |
| | 75 |

The following table gives particulars of the cases of twin births:

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| No. | Age. | No. of confinement. | Date of birth. | Sex. | | Result to mother. | Result to children. | | Presentations. | | Condition of placenta. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1st. | 2nd. | | 1st. | 2nd. | 1st. | 2nd. | |
| 2100 | 38 | 11 | Jan. 20 | M. | F. | L. | L. | L. | Head | Head | Single |
| 2105 | 36 | 4 | Jan. 21 | M. | F. | L. | L. | L. | ,, | ,, | Separate |
| 16 | 35 | 5 | Feb. 19 | F. | F. | L. | L. | L. | ,, | Breech | N. S. |
| 85 | 20 | 1 | March 5 | F. | F. | L. | L. | L. | ,, | ,, | ,, |
| 104 | 27 | 5 | Jan. 19 | M. | F. | L. | L. | L. | Premature | — | ,, |
| 169 | 35 | 4 | April 24 | M. | F. | L. | S. | L. | Head | Foot | ,, |
| 258 | 24 | 4 | March 30 | F. | F. | L. | L. | L. | ,, | Breech | Separate |
| 385 | 38 | 9 | March 28 | ? | ? | L. | S. | S. | Premature, 5 m. | | N. S. |
| 751 | 40 | 11 | April 21 | ? | ? | L. | S. | S. | ,, | 2 m. | ,, |
| 785 | 24 | 2 | May 16 | M. | M. | L. | L. | L. | Head | Head | Single |
| 786 | 33 | 1 | April 22 | M. | F. | L. | L. | L. | Breech | Head and arm | N. S. |
| 852 | 30 | 4 | June 3 | F. | M. | L. | L. | L. | Head | Breech | ,, |
| 1026 | 21 | 4 | Aug. 23 | F. | F. | L. | L. | L. | Natural | Natural | ,, |
| 1157 | 37 | 5 | June 18 | M. | M. | L. | L. | L. | Footling | Head | Single |
| 1364 | 34 | 5 | Oct. 6 | F. | F. | L. | L. | L. | Foot | ,, | Separate |
| 1400 | 32 | 4 | Sept. 27 | F. | F. | L. | L. | L. | Natural | Natural | N. S. |
| 1492 | ? | 9 | Aug. 11 | M. | F. | L. | L. | L. | N. S. | N. S. | ,, |
| 1624 | — | — | Sept. 16 | M. | F. | L. | L. | L. | Head | Footling | Separate |
| 1630 | 25 | 3 | Dec. 24 | M. | M. | L. | L. | L. | N. S. | N. S. | N. S. |
| 1638 | 39 | 9 | Sept. 19 | M. | F. | L. | L. | L. | Natural | Natural | ,, |
| 1647 | 40 | 10 | Sept. 11 | M. | F. | L. | L. | S., Female | ,, | ,, | Single |
| 1863 | 38 | 9 | Oct. 27 | M. | F. | L. | L. | L. | Breech | Breech | N. S. |
| 1870 | 33 | 8 | Nov. 20 | M. | F. | L. | S. | S. | Natural | Natural | ,, |
| 2043 | 28 | 4 | Dec. 23 | F. | F. | L. | L. | L. | Foot | Head | ,, |
| 2044 | 30 | 8 | Nov. 23 | M. | M. | L. | L. | L. | ,, | ,, | ,, |



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# MEDICAL AND SURGICAL REPORTS.

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# MEDICAL REPORT.

## 1884.

By WALTER BAUGH HADDEN, M.D. Lond., M.R.C.P.,
MEDICAL REGISTRAR.

### Table I.—*General Statement of Medical and Surgical Patients.*

| | Males. | Females. | Total. |
|---|---|---|---|
| Number of patients in Hospital, Jan. 1st, 1884 ... | 194 | 192 | 386 |
| " " " Dec. 31st, 1884 ... | 198 | 188 | 386 |

" " discharged or died during 1884:

| | Males. | Females. | Total. | Rate per cent. |
|---|---|---|---|---|
| Cured ... | 1730 | 1303 | 3033 | 64·54 |
| Relieved ... | 475 | 515 | 990 | 21·06 |
| Unrelieved or other causes ... | 98 | 104 | 202 | 4·29 |
| Died ... | 284 | 190 | 474 | 10·08 |
| | 2587 | 2112 | 4699 | 100· |

Average number of days of each medical patient's stay in hospital—31·07.
" " surgical " 26·5.

### Table II.—*General Medical Statement.*

Number of Medical Beds ... ... ... ... ... 192

| | Males. | Females. | Total. |
|---|---|---|---|
| Number of patients in Medical Wards, Jan. 1st, 1884 ... | 69 | 94 | 163 |
| " " admitted during the year 1884 ... | 902 | 999 | 1901 |
| Total ... ... | 971 | 1093 | 2064 |
| " " in Medical Wards, Dec. 31st, 1884... | 71 | 93 | 164 |
| " " treated to a termination during 1884 | 900 | 1000 | 1900 |

" " discharged or died during 1884:

| | Males. | Females. | Total. | Rate per cent. |
|---|---|---|---|---|
| Cured ... | 463 | 560 | 1023 | 53·84 |
| Relieved ... | 190 | 226 | 416 | 21·89 |
| Unrelieved or other causes ... | 68 | 90 | 158 | 8·31 |
| Died ... | 179 | 124 | 303 | 15·94 |
| Total ... | 900 | 1000 | 1900 | 100· |

Average number of days of each patient's stay in hospital—31·07.



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## TABLE III.—*General Table of Diseases.*

| DISEASE. | Number of cases. | | | Age. | | | | | | | Duration of residence. | | | | | | | | | Cured. | | Relieved. | | Unrelieved. | | Died. | | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | M. | F. | Under 5 | 5–10 | 10–20 | 20–30 | 30–40 | 40–50 | 50–60 | Above 60 | Under 1 week | Wks. 1–3 | Wks. 3–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–12 | Above 1 year | M. | F. | M. | F. | M. | F. | M. | F. | |
| I. GENERAL DISEASES. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Measles | 15 | 4 | 11 | 11 | 3 | ... | 1 | ... | ... | ... | ... | 1 | 3 | 5 | 5 | 1 | ... | ... | ... | ... | 3 | 11 | ... | ... | ... | ... | 1 | ... | 12 arose in hospital; 1 a probationer. Acute bronchitis and broncho-pneumonia in fatal case. 1 subsequently contracted diphtheria in hospital and died. |
| Variola | 1 | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | ... | ... | 1 | ... | ... | Transferred to special hospital. |
| Varicella | 2 | ... | 2 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | Neither arose in hospital. |
| Scarlet fever | 38 | 19 | 19 | 11 | 12 | 6 | 6 | 1 | 1 | ... | ... | ... | 2 | 10 | 18 | 6 | 2 | ... | ... | ... | 17 | 17 | ... | ... | ... | 1 | 2 | 1 | 14 arose in hospital. Age not stated in 1. P.M. in 1 case only. |
| Enteric fever | 118 | 69 | 49 | 3 | 16 | 54 | 29 | 8 | 6 | 1 | ... | 5 | 9 | 19 | 58 | 26 | ... | 1 | ... | ... | 56 | 43 | ... | ... | 1 | ... | 12 | 6 | Age not stated in 1. 3 arose in hospital. 2 were nurses, 1 of whom died. |
| Febricula | 21 | 11 | 10 | 1 | 5 | 7 | 6 | 1 | ... | ... | 1 | 3 | 8 | 9 | 1 | ... | ... | ... | ... | ... | 10 | 10 | ... | ... | 1 | ... | ... | ... | Suspicion of enteric fever in 2, 1 being a dormitory maid at the hospital. |
| Erysipelas | 42 | 24 | 18 | 1 | ... | 9 | 8 | 7 | 9 | 6 | 2 | 4 | 21 | 15 | 1 | 1 | ... | ... | ... | ... | 23 | 17 | ... | ... | ... | ... | 1 | 1 | All facial. |
| Pyæmia | 4 | 2 | 2 | 1 | ... | ... | 1 | 2 | ... | ... | ... | 1 | ... | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 2 | |
| Septicæmia | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | A doubtful case. |
| Diphtheria | 64 | 35 | 29 | 41 | 16 | 2 | 3 | 2 | ... | ... | ... | 36 | 12 | 10 | 5 | 1 | ... | ... | ... | ... | 19 | 9 | ... | ... | ... | ... | 16 | 20 | 2 arose in hospital, 1 being a nurse. Diphtheritic ophthalmia in 2. Tracheotomy in 41, 32 being fatal. |
| Post-diphtheritic paralysis | 1 | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | Hands and feet affected. |
| Pertussis | 11 | 6 | 5 | 9 | 2 | ... | ... | ... | ... | ... | ... | 1 | 2 | 5 | 2 | 1 | ... | ... | ... | ... | 6 | 4 | ... | ... | ... | ... | ... | 1 | 4 arose in hospital. Broncho-pneumonia in fatal case. |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Syphilis | 7 | 4 | 3 | 2 | ... | ... | 2 | 3 | ... | ... | ... | 1 | 2 | 4 | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 | 1 | 1 | 2 | ... | The 2 fatal cases were congenital. 2 developed facial erysipelas. |
| Intermittent fever | 3 | 2 | 1 | ... | ... | ... | 1 | 1 | 1 | ... | ... | 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | ... | ... | ... | 2 tertian, 1 irregular. |
| Leprosy | 1 | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | Anæsthetic form. Relieved under chian turpentine. |
| Hydrophobia | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | No P.M. |
| Actinomycosis | 2 | 1 | 1 | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | Abscesses in organs, inflammation of vermiform appendix, pericarditis, right pleurisy in 1; peritonitis and abscesses in liver in 1. |
| Acute rheumatism | 187 | 81 | 106 | ... | 1 | 65 | 64 | 42 | 12 | 3 | ... | 1 | 46 | 69 | 58 | 13 | ... | ... | ... | ... | 80 | 106 | ... | ... | 1 | ... | ... | ... | 6 readmissions. |
| Subacute rheumatism | 9 | 5 | 4 | ... | ... | 4 | 2 | 1 | 1 | 1 | ... | ... | 6 | 2 | 1 | ... | ... | ... | ... | ... | 5 | 4 | ... | ... | ... | ... | ... | ... | Mitral regurgitation in 4; erythema nodosum in 1. |
| Chronic articular rheumatism | 9 | 3 | 6 | ... | ... | ... | 1 | 1 | 5 | 1 | 1 | ... | 1 | 3 | 2 | 3 | ... | ... | ... | ... | 1 | ... | 2 | 4 | ... | 2 | ... | ... | Gonorrhœa in 1; mitral disease in 2; ankle clonus in 2; muscular atrophy in 1. |
| Muscular rheumatism | 4 | 2 | 2 | ... | ... | ... | 1 | 1 | 1 | 1 | ... | ... | 1 | 3 | ... | ... | ... | ... | ... | ... | 2 | 2 | ... | ... | ... | ... | ... | ... | 3 pleurodynia. |
| Rheumatic pains | 7 | 3 | 4 | ... | 1 | ... | 5 | 1 | ... | ... | ... | ... | 5 | 1 | ... | 1 | ... | ... | ... | ... | 2 | 4 | 1 | ... | ... | ... | ... | .. | Slight swelling of joints in 2; mitral disease in 2. |
| Gonorrhœal rheumatism | 6 | 5 | 1 | ... | ... | ... | 2 | 4 | ... | ... | ... | 1 | ... | 1 | 1 | 2 | 1 | ... | ... | ... | 3 | 1 | 1 | ... | 1 | ... | ... | ... | 3 doubtful; 1 contracted facial erysipelas; 1 had partial paraplegia. |
| Synovitis | 4 | 1 | 3 | ... | ... | 2 | 1 | ... | ... | 1 | ... | ... | 1 | ... | ... | 2 | 1 | ... | ... | ... | ... | 3 | 1 | ... | ... | ... | ... | ... | Knee affected in 3; shoulder in 1, with muscular atrophy. |
| Gout | 7 | 4 | 3 | ... | ... | ... | 1 | ... | 1 | 1 | 4 | ... | ... | 1 | 4 | 2 | ... | ... | ... | ... | ... | 1 | 4 | 2 | ... | ... | ... | ... | |
| Myxœdema | 4 | 1 | 3 | ... | ... | ... | ... | 1 | 2 | 1 | ... | ... | 1 | ... | 1 | 1 | ... | ... | 1 | ... | ... | ... | ... | 2 | 1 | 1 | ... | ... | Phthisis in 2, 1 of whom had an attack of jaundice. |
| Sporadic cretinism | 1 | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| Diabetes mellitus | 8 | 7 | 1 | ... | ... | 3 | 1 | 3 | ... | ... | 1 | 1 | ... | 2 | 1 | 2 | 1 | 1 | ... | ... | ... | ... | 2 | ... | 2 | ... | 3 | 1 | 1 transferred to ophthalmic ward for cataract, where he died. Phthisis in 3 of the fatal cases. |
| „ insipidus | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | 1 | ... | ... | ... | ... | |
| Scorbutus | 2 | 2 | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | Both contracted on land. Gout in 1. |
| Purpura | 3 | 1 | 2 | ... | ... | 3 | ... | ... | ... | ... | ... | ... | 1 | ... | 2 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 1 | No P.M. in fatal case. |

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## TABLE III—*continued.*

| DISEASE. | Number of cases. | | | Age. | | | | | | | Duration of residence. | | | | | | | | Cured. | | Relieved. | | Unrelieved. | | Died. | | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | M. | F. | Under 5 | 5–10 | –20 | –30 | –40 | –50 | –60 | Above 60 | Under 1 week | Wks. 1–3 | Wks. 3–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–12 | Above 1 year | M. | F. | M. | F. | M. | F. | M. | F. | |
| I. GENERAL DISEASES—*continued.* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pernicious anæmia | 6 | 4 | 2 | ... | ... | ... | ... | ... | 3 | 2 | 1 | 1 | ... | ... | 3 | 2 | ... | ... | ... | ... | ... | ... | 3 | 1 | ... | ... | 1 | 1 | 1 readmission. Fatty heart and retinal hæmorrhages in both fatal cases. |
| Anæmia | 17 | ... | 17 | 1 | ... | 5 | 8 | 3 | ... | ... | ... | ... | 3 | 10 | 4 | ... | ... | ... | ... | ... | ... | 13 | ... | 3 | ... | ... | ... | 1 | In fatal case, æt. 3, there was purpura and pneumonia. Phlegmasia dolens in 1, a post-puerperal case. |
| Chlorosis | 1 | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | |
| Leucocythæmia | 3 | 1 | 2 | ... | ... | 1 | ... | 2 | ... | 1 | ... | ... | 1 | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | 1 | Enormous spleen in both fatal cases; pelvic abscess and peritonitis in 1, a female. |
| Lymphadenoma | 1 | 1 | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | Improved under arsenic. |
| General tuberculosis | 3 | 3 | ... | ... | 1 | ... | 1 | 1 | ... | ... | ... | 1 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 | ... | |
| General malignant disease | 3 | 1 | 2 | ... | ... | 1 | ... | ... | ... | 2 | ... | 1 | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | All sarcomatous. 1 secondary to ovarian tumour. |
| Rickets | 2 | 1 | 1 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | Enlarged liver and spleen in 1. |
| II. DISEASES OF SKIN. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Erythema nodosum | 3 | 2 | 1 | ... | 1 | ... | 2 | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | ... | ... | ... | Previous acute rheumatism in 1. |
| Eczema | 4 | 2 | 2 | ... | ... | ... | ... | ... | 1 | 2 | 1 | ... | 1 | 2 | 1 | ... | ... | ... | ... | ... | 1 | 1 | 1 | 1 | ... | ... | ... | ... | Chronic renal disease in 1. |
| Pemphigus | 1 | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | |
| Psoriasis | 1 | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | |
| Ichthyosis | 1 | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | |
| Rhino-scleroma | 1 | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | Partially removed by scraping. |

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| III. Diseases of the Respiratory Organs. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acute laryngitis | 4 | 3 | 1 | 1 | 1 | ... | 1 | 1 | ... | ... | ... | 4 | ... | ... | ... | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | ... | 1 | ... | |
| Tubercular disease of larynx | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | Also pulmonary phthisis. |
| Syphilitic disease of larynx | 3 | 1 | 2 | ... | ... | ... | 1 | 2 | ... | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | ... | 1 | 2 | ... | ... | ... | ... | ... | ... | 1 aborted. |
| Malignant disease of larynx | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | A cauliflower growth (squamous epithelioma) involving both true and false vocal cords. |
| Tracheal tumour | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| Acute bronchitis. | 40 | 19 | 21 | 17 | 2 | 4 | 10 | 4 | 1 | 2 | ... | 8 | 13 | 14 | 4 | 1 | ... | ... | ... | 16 | 17 | ... | 2 | ... | ... | 3 | 2 | Rickets in 2 fatal cases; pulmonary collapse in 3. No P.M. in 1. 1 readmission. |
| Chronic bronchitis | 40 | 24 | 16 | ... | ... | 1 | 2 | 3 | 14 | 13 | 7 | 4 | 4 | 20 | 7 | 5 | ... | ... | ... | 3 | 5 | 13 | 9 | ... | ... | 8 | 2 | 1 readmission. Adherent pericardium in 2 fatal cases; pneumonia in 2; granular kidneys in 1. |
| Broncho-pneumonia | 5 | 2 | 3 | 5 | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | 2 | ... | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | ... | ... | 2 | No P.M. in 1 case. |
| Acute pneumonia | 61 | 35 | 26 | 10 | 7 | 7 | 13 | 12 | 10 | 1 | 1 | 8 | 14 | 25 | 11 | 3 | ... | ... | ... | 28 | 22 | 1 | ... | ... | 1 | 6 | 3 | |
| Phthisis | 71 | 49 | 22 | 3 | ... | 5 | 20 | 23 | 13 | 6 | 1 | 5 | 14 | 19 | 23 | 9 | 1 | ... | ... | ... | ... | 16 | 8 | 9 | 5 | 24 | 9 | No P.M. in 8. 1, fatal case, contracted pertussis in hospital. |
| Hæmoptysis | 8 | 5 | 3 | ... | ... | 3 | 2 | 1 | 2 | ... | ... | 2 | 1 | 3 | 2 | ... | ... | ... | ... | 4 | 1 | 1 | 2 | ... | ... | ... | ... | Congenital cardiac disease in 1. The rest probably connected with phthisis. |
| Pleurisy | 31 | 22 | 9 | ... | 3 | 7 | 11 | 8 | ... | 1 | 1 | 1 | 6 | 12 | 10 | 1 | 1 | ... | ... | 20 | 9 | 2 | ... | ... | ... | ... | ... | 1 readmission. 17 on right side, 13 on left, 1 double. |
| Empyema | 14 | 11 | 3 | 1 | 2 | 1 | 3 | 4 | 3 | ... | ... | 1 | ... | 4 | 3 | 4 | 1 | ... | ... | 1 | 6 | 2 | 1 | 1 | 1 | ... | 3 | 1 readmission (see Pertussis). 4 on the right side, 10 on the left. Phthisis in 1 fatal case. |
| Intra-thoracic tumour | 3 | 2 | 1 | ... | 1 | ... | ... | 1 | ... | 1 | ... | ... | ... | 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | 1 | No P.M. in fatal case. 1 doubtful. |

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## TABLE III—*continued.*

| DISEASE. | Number of cases. | | | Age. | | | | | | | Duration of residence. | | | | | | | | | Cured. | | Relieved. | | Unrelieved. | | Died. | | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | M. | F. | Under 5 | 5–10 | –20 | –30 | –40 | –50 | –60 | Above 60 | Under 1 week | Wks. 1–3 | Wks. 3–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–12 | Above 1 year | M. | F. | M. | F. | M. | F. | M. | F. | |
| **IV. DISEASES OF THE ORGANS OF CIRCULATION.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pericarditis | 4 | 2 | 2 | ... | ... | 1 | 1 | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | 2 | ... | |
| Adherent pericardium | 3 | 2 | 1 | ... | ... | 1 | 1 | ... | ... | .. | 1 | 1 | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 1 | Mitral disease and chronic congestion of organs in 2; right pleuro-pneumonia in 1. |
| Angina pectoris | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | |
| Anginoid | 1 | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | |
| 1. *Heart.* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dilatation | 1 | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | Heart large and flabby, mitral orifice dilated, infarcts in spleen and kidneys. |
| Fatty degeneration | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | Pulmonary apoplexy, softening of island of Reil. |
| Aneurysm | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | Aneurysm at apex, and also one of descending aorta. |
| Malformation | 5 | 4 | 1 | 3 | ... | 2 | ... | ... | ... | ... | ... | ... | 1 | 2 | 2 | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | 1 | 1 | ... | In fatal case incomplete septum between ventricles, aorta and pulmonary artery arising from right ventricle. |
| 2. *Valvular disease.* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mitral | 50 | 16 | 34 | 1 | 1 | 8 | 12 | 12 | 6 | 4 | 6 | 5 | 5 | 17 | 12 | 10 | 1 | ... | ... | ... | ... | ... | 11 | 26 | 1 | 3 | 4 | 5 | No P.M. in 1. |
| Aortic | 15 | 13 | 2 | ... | ... | ... | 1 | 8 | 2 | 3 | 1 | 3 | 1 | 4 | 5 | 2 | ... | ... | ... | ... | ... | ... | 7 | ... | 1 | ... | 5 | 2 | |
| Mitral and aortic | 26 | 17 | 9 | ... | ... | 5 | 10 | 8 | 3 | ... | ... | 3 | 4 | 6 | 6 | 5 | 2 | ... | ... | ... | ... | ... | 12 | 2 | 2 | 2 | 3 | 5 | 3 readmissions. Suspicion of aneurysm in 2. No P.M. in 1. |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3. *Vessels.*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thoracic aneurysm | 13 | 12 | 1 | ... | ... | ... | ... | 2 | 7 | 4 | ... | 2 | 1 | 1 | 2 | 5 | 1 | 1 | ... | ... | ... | ... | 6 | ... | 3 | ... | 3 | 1 | 1 readmission. |
| Thrombosis of popliteal artery | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | General atheroma of vessels, malignant nodule in kidney. |
| Phlebitis | 6 | 1 | 5 | ... | ... | ... | 4 | 1 | 1 | ... | ... | ... | 1 | 2 | 3 | ... | ... | ... | ... | ... | ... | 4 | 1 | 1 | ... | ... | ... | ... | Veins of lower limbs affected in all. |
| **V. Diseases of the Ductless Glands.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Exophthalmic goître | 2 | ... | 2 | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | Syphilis in 1. |
| Addison's disease | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | Typical change in suprarenals, acute pericarditis, old tubercle in lungs and liver. |
| **VI. Diseases of the Digestive Organs.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **1. *Alimentary canal.*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomatitis | 1 | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | Much superficial ulceration, acute bronchitis and broncho-pneumonia. |
| Tonsillitis | 18 | 9 | 9 | 2 | 3 | 2 | 6 | 2 | 2 | 1 | ... | 1 | 15 | 2 | ... | ... | ... | ... | ... | ... | 9 | 9 | ... | ... | ... | ... | ... | ... | Albuminuria in 3; abscess in 1. |
| Ulcer of pharynx | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | Non-syphilitic. |
| Ulcer of œsophagus | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | Simple ulcer 2 inches long, chronic peritonitis. |
| Malignant disease of œsophagus | 5 | 4 | 1 | ... | ... | ... | ... | ... | 1 | 3 | 1 | ... | 2 | 1 | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | 2 | 1 | 2 | ... | 1 | transferred to surgical ward, where gastrostomy was performed. |
| Dyspepsia | 17 | 3 | 14 | ... | ... | ... | 5 | 4 | 4 | 2 | 2 | 2 | 7 | 4 | 3 | 1 | ... | ... | ... | ... | 3 | 10 | ... | 4 | ... | ... | ... | ... | |
| Gastric ulcer | 13 | 5 | 8 | ... | ... | 2 | 3 | 5 | 2 | ... | 1 | ... | ... | 5 | 7 | 1 | ... | ... | ... | ... | 3 | 8 | 2 | ... | ... | ... | ... | ... | |
| Hæmatemesis | 10 | 1 | 9 | ... | ... | 1 | 8 | 1 | ... | ... | ... | 1 | 3 | 3 | 2 | 1 | ... | ... | ... | ... | ... | 8 | 1 | 1 | ... | ... | ... | ... | 1 readmission. Suspicion of ulcer in most. Hæmaturia in 1, a male. |
| Vomiting | 8 | 2 | 6 | 1 | ... | 1 | 1 | 2 | 2 | 1 | ... | 1 | 3 | 2 | 1 | 1 | ... | ... | ... | ... | 1 | 3 | 1 | 1 | ... | 2 | ... | ... | 1 probably hysterical. |
| Malignant disease of stomach | 13 | 10 | 3 | ... | ... | ... | 1 | 2 | 1 | 6 | 3 | ... | 4 | 3 | 4 | 2 | ... | ... | ... | ... | ... | ... | 1 | ... | 3 | 1 | 6 | 2 | 1 transferred to surgical ward, where abdominal section was performed. |
| Gastralgia | 1 | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | |

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## TABLE III—*continued.*

| DISEASE. | Number of cases. | | | Age. | | | | | | | | Duration of residence. | | | | | | | | Cured. | | Relieved. | | Unrelieved. | | Died. | | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | M. | F. | Under 5 | 5–10 | –20 | –30 | –40 | –50 | –60 | Above 60 | Under 1 week | Wks. 1–2 | Wks. 2–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–12 | Above 1 year | M. | F. | M. | F. | M. | F. | M. | F. | |
| VI. DISEASES OF THE DIGESTIVE ORGANS —*continued* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gastro-intestinal catarrh | 4 | 2 | 2 | 3 | ... | ... | ... | 1 | ... | ... | ... | 3 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 2 | Mitral disease, pneumonia, and acute meningitis in 1, an adult. |
| Diarrhœa | 23 | 13 | 10 | 8 | 1 | 1 | 5 | 3 | 4 | ... | 1 | 14 | 4 | 2 | 2 | 1 | ... | ... | ... | ... | 9 | 8 | 4 | ... | ... | ... | 2 | No marked post-mortem changes in fatal cases. |
| Enteritis | 2 | 1 | 1 | ... | ... | ... | 2 | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | Acute peritonitis in fatal case. |
| Dysentery | 1 | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | |
| Colic | 2 | 2 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 due to lead. |
| Constipation | 37 | 13 | 24 | 1 | 3 | 14 | 9 | 4 | 3 | 2 | 1 | 11 | 12 | 10 | 4 | ... | ... | ... | ... | ... | 13 | 24 | ... | ... | ... | ... | ... | Retention of urine in 3. |
| Intestinal obstruction | 15 | 8 | 7 | 4 | 2 | ... | 1 | ... | 4 | 2 | 2 | 6 | 2 | 3 | 2 | 1 | ... | 1 | ... | ... | 1 | 2 | ... | 1 | ... | 1 | 7 | 3 | 1 readmission. Intussusception in 6; malignant stricture in 6; internal strangulation in 2; inguinal hernia in 1. 1 transferred to surgical ward. Colotomy in 2. |
| Perityphlitis | 16 | 14 | 2 | ... | ... | 7 | 4 | 2 | 3 | ... | ... | 2 | 2 | 7 | 4 | 1 | ... | ... | ... | ... | 13 | 2 | 1 | ... | ... | ... | ... | 1 readmission. |
| Ulceration of rectum | 1 | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | Transferred to surgical ward. |
| Tubercular ulceration of intestine | 1 | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | |
| 2. *Peritoneum.* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acute peritonitis | 1 | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | Probably due to retro-uterine hæmatocele. Developed a red rash (? scarlet fever) in hospital. |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chronic peritonitis | 14 | 7 | 7 | 1 | 3 | 6 | 3 | ... | 1 | ... | ... | ... | 1 | 2 | 3 | 7 | 1 | ... | ... | ... | ... | 2 | 4 | 2 | 2 | 1 | 1 | 2 | 1 readmission. All probably tubercular. 1 contracted enteric fever. Cerebral disease in 1. |
| Malignant disease of peritoneum | 4 | ... | 4 | ... | ... | ... | ... | 1 | ... | 1 | 2 | 1 | 1 | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 3 | |
| 3. *Liver.* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lardaceous disease | 1 | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | | | |
| Cirrhosis | 24 | 7 | 17 | ... | ... | ... | ... | 6 | 5 | 12 | 1 | 2 | 3 | 8 | 5 | 3 | 3 | ... | ... | ... | ... | 4 | 10 | 1 | 1 | 2 | 6 | No P.M. in 2. Facial erysipelas in 1. |
| Hypertrophic cirrhosis | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | | | |
| Hydatid | 3 | ... | 3 | ... | ... | ... | ... | 3 | ... | ... | ... | ... | 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 2 | ... | ... | 1 readmission. 1 tapped. | | |
| Syphilitic disease | 1 | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | | | |
| Malignant disease | 3 | ... | 3 | ... | ... | ... | ... | ... | 1 | ... | 2 | 1 | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | 1 | Old hydatid in fatal case. | | |
| Biliary colic | 2 | ... | 2 | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | | | |
| Obstructive jaundice | 4 | 2 | 2 | ... | ... | ... | 2 | ... | ... | 1 | 1 | ... | 3 | 1 | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 | 1 | ... | ... | ... | ... | 3 probably catarrhal; 1 due to gall-stones. | | |
| 4. *Various.* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Abdominal tumour | 10 | 6 | 4 | ... | ... | ... | 2 | 3 | 4 | 1 | ... | ... | 4 | 1 | 4 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | 5 | 2 | 1 | 1 | No P.M. in 1. Sarcoma of lumbar glands in the other fatal case. 1 transferred to surgical ward. | | |
| ,, abscess | 5 | 1 | 4 | ... | ... | 1 | 1 | 3 | ... | ... | ... | ... | ... | 1 | 1 | 1 | 2 | ... | ... | ... | 1 | 1 | ... | 2 | ... | ... | ... | 1 | 1 a suppurating gall-bladder. Tubercular abscess of mesentery in fatal case. | | |
| ,, hydatid | 2 | 1 | 1 | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | In non-fatal case there was a suppurating hydatid in the neighbourhood of the spleen. | | |
| Abdominal pain | 2 | ... | 2 | ... | ... | ... | 1 | ... | 1 | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | Cause doubtful. | | |
| VII. Diseases of the Genito-urinary System. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acute nephritis | 28 | 13 | 15 | 4 | 6 | 8 | 6 | 2 | 2 | ... | ... | 3 | 1 | 10 | 7 | 5 | 2 | ... | ... | ... | 6 | 4 | 5 | 8 | ... | 1 | 2 | 2 | 12 probably scarlatinal. No P.M. in 1. Pneumonia in 1 fatal case. | | |

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## TABLE III—*continued.*

| DISEASE. | Number of cases. | | | Age. | | | | | | | | Duration of residence. | | | | | | | | | Cured. | | Relieved. | | Unrelieved. | | Died. | | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | M. | F. | Under 5 | 5–10 | –20 | –30 | –40 | –50 | –60 | Above 60 | Under 1 week | Wks. 1–2 | Wks. 2–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–12 | Above 1 year | M. | F. | M. | F. | M. | F. | M. | F. | |
| VII. DISEASES OF THE GENITO-URINARY SYSTEM—*continued.* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Chronic nephritis | 34 | 27 | 7 | ... | ... | ... | 5 | 11 | 9 | 6 | 3 | 1 | 4 | 6 | 17 | 6 | ... | ... | ... | ... | ... | ... | 15 | 3 | 2 | 1 | 10 | 3 | Probable exposure to lead in 4. |
| Lardaceous disease of kidneys | 1 | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | .. | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | Disease of hip. |
| Malignant disease of kidneys | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | Growth also in right iliac fossa, liver, and heart. |
| Pyelitis | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | Due to calculus. |
| Renal colic | 3 | ... | 3 | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | 1 | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 2 | ... | 1 | ... | ... | 2 on the right, 1 on the left side. |
| Hydronephrosis | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | |
| Pyonephrosis | 1 | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | |
| Hæmaturia | 3 | 3 | ... | 1 | ... | ... | ... | 1 | 1 | ... | ... | 2 | ... | 1 | ... | ... | ... | ... | ... | ... | 2 | ... | 1 | ... | ... | ... | ... | ... | ... | 2 due to turpentine; 1 to calculus. |
| Tubercular disease of bladder | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | |
| VIII. DISEASES OF THE NERVOUS SYSTEM. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acute meningitis | 1 | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | Spinal meningitis, disease of ears. |
| Tubercular meningitis | 4 | 3 | 1 | 1 | 2 | ... | ... | 1 | ... | ... | ... | 2 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 | 1 | Small tubercular nodule in the brain in 1 case. |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hemiplegia | 19 | 9 | 10 | ... | 1 | 1 | 1 | 3 | 5 | 4 | 4 | 2 | ... | 6 | 6 | 4 | 1 | ... | ... | ... | 1 | 2 | 4 | 7 | 3 | 1 | 1 | ... | No decided P.M. change found in fatal case. 11 on the left side, 8 on the right. Aphasia in 1; hemianæsthesia in 1; rigidity in 2; hemianopia in 1; movements in 1; fits in 1. |
| Cerebral hæmorrhage | 8 | 4 | 4 | ... | ... | ... | ... | ... | 3 | 3 | 2 | 7 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4 | 4 | No P.M. in 1. Rupture of cerebral aneurysm in 2. |
| „ tumour | 20 | 10 | 10 | ... | 3 | 2 | 4 | 6 | 4 | 1 | ... | ... | 2 | 3 | 11 | 2 | 1 | 1 | ... | ... | ... | 1 | 4 | 6 | 4 | 2 | 2 | 1 | 7 probably syphilitic; all non-fatal. |
| „ abscess | 2 | 2 | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | Disease of ears in both. |
| Cerebellar abscess | 2 | 1 | 1 | 1 | ... | 1 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | Disease of ears in both. |
| Cephalalgia | 10 | 3 | 7 | 1 | 2 | 2 | 4 | 1 | ... | ... | ... | 2 | 4 | 3 | ... | 1 | ... | ... | ... | ... | 3 | 5 | ... | 2 | ... | ... | ... | ... | 2 probably syphilitic. |
| Obscure cerebral disease | 1 | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | Transferred from the ophthalmic ward. |
| Ophthalmoplegia externa | 2 | ... | 2 | ... | ... | ... | 2 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | 1 | Readmission. Nothing definite found P.M. |
| Vertigo | 4 | 1 | 3 | ... | 2 | ... | 1 | 1 | ... | ... | ... | ... | 1 | 2 | 1 | ... | ... | ... | ... | ... | 1 | 1 | 2 | ... | ... | ... | ... | ... | 1 readmission. Disease of ears in 1. |
| Sunstroke | 1 | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | |
| Paralysis agitans | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | |
| Double athetosis | 1 | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | |
| Choreiform movements | 2 | 1 | 1 | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | 1 unilateral; the other double and probably congenital. |
| Bulbar paralysis | 3 | 2 | 1 | ... | ... | ... | 1 | ... | 1 | 1 | ... | ... | ... | 2 | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 | ... | ... | |
| Dysphagia of nervous origin | 1 | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| Tetanus | 1 | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | Idiopathic. |
| Tetany | 3 | 3 | ... | 1 | ... | ... | ... | 1 | ... | 1 | ... | ... | 1 | ... | ... | 1 | 1 | ... | ... | ... | 2 | ... | ... | ... | 1 | ... | ... | ... | 1 doubtful. Rickets and diarrhœa in 1; dysentery in 1. |
| Idiocy | 6 | 2 | 4 | 2 | 2 | 2 | ... | ... | ... | ... | ... | 3 | 2 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 4 | ... | Spastic paraplegia in 2. |
| General paralysis of insane | 1 | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| Other mental disorders | 8 | 2 | 6 | ... | ... | 1 | 4 | 2 | ... | 1 | ... | ... | 3 | 2 | 3 | ... | ... | ... | ... | ... | 2 | 1 | ... | 2 | ... | 3 | ... | ... | 2 cases of post-epileptic excitement. |
| Chorea | 31 | 7 | 24 | ... | 12 | 18 | 1 | ... | ... | ... | ... | 1 | 2 | 10 | 14 | 2 | 2 | ... | ... | ... | 4 | 18 | 3 | 4 | ... | 2 | ... | ... | Doubtful scarlet fever in 1. |

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## TABLE III—*continued.*

| DISEASE. | Number of cases. | | | Age. | | | | | | | Duration of residence. | | | | | | | | | Cured. | | Relieved. | | Unrelieved. | | Died. | | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | M. | F. | Under 5 | 5–10 | –20 | –30 | –40 | –50 | –60 | Above 60 | Under 1 week | Wks. 1–3 | Wks. 3–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–12 | Above 1 year | M. | F. | M. | F. | M. | F. | M. | F. | |
| VIII. DISEASES OF THE NERVOUS SYSTEM—*continued.* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hysteria | 19 | 1 | 18 | ... | ... | 9 | 6 | 2 | 2 | ... | ... | 1 | 1 | 7 | 6 | 4 | ... | ... | ... | ... | 1 | 12 | ... | 5 | ... | 1 | ... | ... | 1 transferred from surgical ward. 1 a case of hemi-anæsthesia and hystero-epilepsy. |
| Epilepsy | 19 | 15 | 4 | 6 | ... | 4 | 2 | 4 | 2 | 1 | ... | 12 | 3 | 4 | ... | ... | ... | ... | ... | ... | 12 | 2 | 2 | 2 | ... | ... | 1 | ... | 6 were cases of infantile convulsions, 1 of which died. No marked P.M. change. Suspicion of uræmia in 1. |
| Spinal meningitis | 1 | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | Lymph on posterior surface of cord. |
| Paraplegia | 16 | 13 | 3 | ... | 4 | 2 | 1 | 4 | ... | 3 | 2 | ... | ... | 3 | 5 | 6 | 1 | 1 | ... | ... | 2 | ... | 6 | 1 | 5 | 2 | ... | ... | 1 readmitted twice. Angular curvature in 5; 3 syphilitic. 1 contracted scarlet fever. |
| Acute myelitis | 1 | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | Optic neuritis. |
| Locomotor ataxy | 10 | 6 | 4 | ... | ... | ... | ... | 6 | 3 | 1 | ... | ... | ... | 6 | 4 | ... | ... | ... | ... | ... | ... | ... | 3 | 2 | 3 | 2 | ... | ... | Perforating ulcer in 2, transferred from surgical wards. |
| Spastic paraplegia | 1 | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | Apparently primary. |
| Postero-lateral sclerosis | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | Grey degeneration of columns of Goll and lateral columns. |
| Amyotrophic lateral sclerosis | 1 | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | Early bulbar symptoms. |
| Disseminated sclerosis | 11 | 4 | 7 | ... | ... | ... | ... | 7 | 2 | 2 | ... | ... | ... | 2 | 4 | 2 | 1 | 1 | 1 | ... | ... | ... | 2 | 5 | 2 | 1 | ... | 1 | In fatal case grey patches in cord, especially in lateral columns; pyæmic abscesses. |
| Infantile paralysis | 2 | 1 | 1 | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | 1 contracted measles. |

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| Progressive muscular atrophy | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | | |
| Alcoholic paralysis | 3 | 2 | 1 | ... | ... | ... | ... | 1 | 2 | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | 1 | ... | 1 | 1 | ... | ... | ... | ... | | |
| Optic-nerve atrophy | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | | |
| Paralysis of 6th nerve | 2 | ... | 2 | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | Readmission. | |
| Facial paralysis | 1 | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | | |
| Muscular atrophy of left arm | 2 | 2 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | Readmission. Suspicion of nerve injury. | |
| Neuralgia | 4 | 2 | 2 | ... | ... | ... | 1 | ... | 2 | 1 | ... | ... | ... | 3 | ... | 1 | ... | ... | ... | ... | 1 | ... | 1 | 2 | ... | ... | ... | ... | 3 facial. | |
| Sciatica | 6 | 3 | 3 | ... | ... | ... | ... | 3 | 2 | 1 | ... | 1 | 2 | 1 | 2 | ... | ... | ... | ... | ... | ... | 1 | 2 | 2 | 1 | ... | ... | ... | 2 on the right side, 3 on the left, 1 double. Pelvic tumour in 1. | |
| Pseudo-hypertrophic paralysis | 1 | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | | |
| IX. Poisoning. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Alcoholism | 10 | 7 | 3 | ... | ... | ... | 1 | 8 | 1 | ... | ... | 4 | 2 | 4 | ... | ... | ... | ... | ... | ... | 7 | 3 | ... | ... | ... | ... | ... | ... | 2 were cases of delirium tremens. | |
| Plumbism | 5 | 5 | ... | ... | ... | ... | 1 | 1 | 2 | 1 | ... | ... | 2 | ... | 2 | 1 | ... | ... | ... | ... | 2 | ... | 3 | ... | ... | ... | ... | ... | 3 were painters. Colic in 2; wrist-drop in 2; colic and wrist-drop in 1. | |
| Belladonna | 1 | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | Accidental. | |
| Opium | 7 | 4 | 3 | ... | ... | ... | 3 | 2 | 1 | 1 | ... | 6 | 1 | ... | ... | ... | ... | ... | ... | ... | 4 | 3 | ... | ... | ... | ... | ... | ... | 1 was a habitual morphia taker. | |
| Chlorodyne | 1 | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | | |
| Camphorated chloroform | 1 | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | | |
| Carbolic acid | 3 | 1 | 2 | 1 | ... | ... | ... | 1 | 1 | ... | ... | 2 | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 1 | In fatal case the whitening affected the small intestine for 6½ feet. | |
| Oxalic acid | 2 | 1 | 1 | ... | ... | ... | 2 | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | | |
| Arsenic | 1 | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | | |
| Paraffin | 1 | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | | |
| Bisulphide of carbon | 1 | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | Employed at an india-rubber manufactory. | |

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## TABLE III—*continued.*

| DISEASE. | Number of cases. | | | Age. | | | | | | | | Duration of residence. | | | | | | | | Cured. | | Relieved. | | Unrelieved. | | Died. | | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | M. | F. | Under 5 | 5–10 | 10–20 | 20–30 | 30–40 | 40–50 | 50–60 | Above 60 | Under 1 week | Wks. 1–2 | Wks. 2–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–12 | Above 1 year | M. | F. | M. | F. | M. | F. | M. | F. | |
| X. SURGICAL AND MISCELLANEOUS. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Immersion | 2 | 2 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | Both drunk. |
| Debility | 15 | 4 | 11 | 1 | 2 | 1 | 4 | 3 | 1 | 2 | 1 | 1 | 7 | 5 | 1 | 1 | ... | ... | ... | ... | 4 | 8 | ... | 3 | ... | ... | ... | ... | 1 readmission (see Pneumonia). |
| Inanition | 4 | 3 | 1 | 4 | ... | ... | ... | ... | ... | ... | ... | ... | 3 | 1 | ... | ... | ... | ... | ... | ... | 3 | 2 | ... | 1 | ... | ... | ... | ... | Eczema in 1; scabies in 1. |
| Epistaxis | 4 | 2 | 2 | ... | ... | ... | ... | ... | 2 | 2 | ... | 1 | 2 | 1 | ... | ... | ... | ... | ... | ... | 2 | 2 | ... | ... | ... | ... | ... | ... | Cirrhosis of liver in 1. |
| Vertebral caries | 4 | ... | 4 | ... | ... | 2 | 1 | 1 | ... | ... | ... | ... | ... | 3 | 1 | ... | ... | ... | ... | ... | ... | 2 | ... | 1 | ... | 1 | ... | ... | 1 readmitted twice (see Cephalalgia). 1 transferred to surgical ward. |
| Various | 25 | 13 | 12 | 4 | 4 | 3 | 2 | 4 | 4 | 2 | 2 | 4 | 5 | 5 | 9 | 2 | ... | ... | ... | ... | 11 | 4 | 3 | 3 | 1 | 2 | 2 | 3 | 1 readmission. 2 transferred to surgical wards. 1 contracted scarlet-fever and died. 5 were abscesses. Of fatal cases, 1 was a cicatrix in trachea after tracheotomy; 1 foreign body in larynx; 1 foreign body in œsophagus; 1 a doubtful spinal cord case; and 1 was brought in dead. |
| Unclassified | 18 | 12 | 6 | 4 | 5 | 1 | 2 | 2 | 3 | 1 | ... | 15 | 2 | 1 | ... | ... | ... | ... | ... | ... | 11 | 5 | ... | ... | ... | 1 | 1 | ... | 2 readmissions. No P.M. in fatal case. |
| XI. DISEASES OF THE FEMALE GENERATIVE ORGANS. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. *Uterus.* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Amenorrhœa | 1 | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | |
| Metrorrhagia | 7 | ... | 7 | ... | ... | ... | ... | 4 | 1 | 1 | 1 | ... | 2 | 3 | 1 | 1 | ... | ... | ... | ... | ... | 4 | ... | 3 | ... | ... | ... | ... | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dysmenorrhœa** | 1 | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | |
| **Parametritis** | 19 | ... | 19 | ... | ... | 2 | 9 | 6 | 2 | ... | ... | ... | 1 | 3 | 10 | 4 | 1 | ... | ... | ... | ... | 13 | ... | 3 | ... | 1 | ... | 2 | 1 transferred to surgical ward. In one fatal case a pelvic abscess opened into rectum, and there was chronic pelvic peritonitis. In the other there was a pelvic abscess and purpura. |
| **Perimetritis** | 3 | ... | 3 | ... | ... | 1 | 1 | 1 | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | 1 | ... | ... | ... | 2 | ... | 1 | ... | ... | ... | ... | |
| **Pelvic hæmatocele** | 3 | ... | 3 | ... | ... | 1 | 2 | ... | ... | ... | ... | 1 | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | 1 | In fatal case suppurating hæmatocele opening into large intestine, and peritonitis. |
| **Prolapse of uterus** | 2 | ... | 2 | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | Endometritis in 1. |
| **Anteversion of uterus** | 1 | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | |
| **Anteflexion of uterus** | 2 | ... | 2 | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | Dysmenorrhœa in 1; endocervicitis in 1. |
| **Retroversion of uterus** | 2 | ... | 2 | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | |
| **Retroflexion of uterus** | 5 | ... | 5 | ... | ... | 1 | 2 | 2 | ... | ... | ... | ... | ... | 1 | 4 | ... | ... | ... | ... | ... | ... | ... | ... | 5 | ... | ... | ... | ... | Dysmenorrhœa in 1; metrorrhagia in 1; hyperplasia of cervix in 1. |
| **Endometritis** | 28 | ... | 28 | ... | ... | ... | 12 | 13 | 3 | ... | ... | ... | ... | 6 | 13 | 9 | ... | ... | ... | ... | ... | 16 | ... | 12 | ... | ... | ... | ... | Hyperplasia in 2; anteflexion in 2; parametritis in 1; subinvolution in 1; subovaritis in 2; chronic ovaritis in 1; granular os in 2; stenosis of internal os in 1; laceration of cervix in 1. |
| **Uterine polypus** | 5 | ... | 5 | ... | ... | ... | 1 | ... | 4 | ... | ... | ... | ... | ... | 4 | 1 | ... | ... | ... | ... | ... | 5 | ... | ... | ... | ... | ... | ... | 1 a placental polypus. Parametritis in 1. |
| „ **fibroid** | 12 | ... | 12 | ... | ... | ... | ... | 5 | 5 | 2 | ... | 1 | 2 | 3 | 4 | 2 | ... | ... | ... | ... | ... | 2 | ... | 5 | ... | 4 | ... | 1 | No P.M. in fatal case. 1 transferred to surgical ward, where she died. |
| „ **tumour** | 1 | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | Transferred to surgical ward, where she died after removal of uterus. The growth was fibro-cystic. |
| **Malignant disease of uterus** | 12 | ... | 12 | ... | ... | ... | ... | 5 | 2 | 4 | 1 | 1 | 2 | 4 | 4 | 1 | ... | ... | ... | ... | ... | 2 | ... | 3 | ... | 5 | ... | 2 | |

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## TABLE III—*continued.*

| DISEASE. | Number of cases. | | | Age. | | | | | | | Duration of residence. | | | | | | | | Cured. | | Relieved. | | Unrelieved. | | Died. | | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | M. | F. | Under 5 | 5–10 | –20 | –30 | –40 | –50 | –60 | Above 60 | Under 1 week | Wks. 1–2 | Wks. 2–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–12 | Above 1 year | M. | F. | M. | F. | M. | F. | M. | F. | |
| XI. DISEASES OF THE FEMALE GENERATIVE ORGANS—*continued.* | | | | | | | | | | | | | | | | | | | | | | | | | | | | Vagina involved in 3. In 1 fatal case fundus only affected. |
| Subinvolution | 3 | ... | 3 | ... | ... | ... | 1 | 2 | ... | ... | ... | 1 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 2 | ... | ... | Endometritis in 1. |
| Ill-developed uterus | 1 | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| Pyo-salpinx | 1 | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | Doubtful. |
| Stenosis of cervix | 3 | ... | 3 | ... | ... | ... | 1 | ... | 1 | 1 | ... | ... | 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 2 | ... | ... | 1 transferred to medical ward for mitral disease. |
| Elongated cervix | 1 | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | Removal. |
| Hypertrophy of cervix | 1 | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | Removal. |
| Laceration of cervix | 1 | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | Hyperplasia and retroversion. |
| Stenosis of internal os | 2 | ... | 2 | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | Retroversion in 1; dysmenorrhœa and subovaritis in 1. |
| Stenosis of external os | 1 | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | |
| 2. *Ovaries.* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Prolapsed ovary | 1 | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | Retroflexion. |
| Ovaritis | 3 | ... | 3 | ... | ... | ... | 2 | 1 | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | ... | ... | ... | ... | 2 | ... | 1 | ... | ... | Retroflexion in 1. |
| Ovarian tumour | 7 | ... | 7 | ... | ... | ... | ... | 1 | 4 | 1 | 1 | 1 | ... | 4 | 2 | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | 5 | ... | 5 transferred to surgical wards. |
| Subovaritis | 1 | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | Stenosis of cervix. |
| 3. *Accidents of Pregnancy.* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Abortion | 2 | ... | 2 | ... | ... | ... | ... | 2 | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | |
| Retained fœtal products | 3 | ... | 3 | ... | ... | ... | 2 | 1 | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 2 | ... | ... | ... | |
| Threatened abortion | 1 | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | |
| Pregnancy | 2 | ... | 2 | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | Carcinoma of cervix in 1; probable fibroid in 1. |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Retroversion of gravid uterus | 1 | | 1 | | | | 1 | | | | | | | 1 | | | | | | | | 1 | | | | | | | |
| Molar pregnancy | 2 | | 2 | | | | 2 | | | | | | | | 2 | | | | | | | 2 | | | | | | | |
| Extra-uterine fœtation | 1 | | 1 | | | | | 1 | | | | | | | 1 | | | | | | | | | | | | | 1 | |
| Puerperal septicæmia | 1 | | 1 | | | | 1 | | | | | | | 1 | | | | | | | | | | | | | | 1 | Thrombosis of inferior vena cava, and of both iliac, femoral, and renal veins. |
| Labial thrombus | 1 | | 1 | | | | 1 | | | | | | 1 | | | | | | | | | | | | | | | 1 | No P.M. |
| Phlegmasia dolens | 1 | | 1 | | | | 1 | | | | | | | | 1 | | | | | | | 1 | | | | | | | Right side. |
| Ruptured perinæum | 6 | | 6 | | | | 3 | 2 | 1 | | | | | 1 | 3 | 2 | | | | | | 6 | | | | | | | |
| Vesico-vaginal fistula | 1 | | 1 | | | | 1 | | | | | | | | 1 | | | | | | | 1 | | | | | | | |
| 4. *Various.* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Carcinoma of vulva | 2 | | 2 | | | | | 1 | | | 1 | | | | 1 | 1 | | | | | | 1 | | 1 | | | | | |
| Strangulation of labium | 1 | | 1 | | | | | 1 | | | | | | 1 | | | | | | | | 1 | | | | | | | Removal. |
| Elongated nymphæ | 1 | | 1 | | | 1 | | | | | | | | 1 | | | | | | | | 1 | | | | | | | Removal. |
| Urethral caruncle | 2 | | 2 | | | | | | 1 | | 1 | | | | 2 | | | | | | | 2 | | | | | | | |
| Hyperæsthesia of urethra | 1 | | 1 | | | | | | 1 | | | | | 1 | | | | | | | | | | 1 | | | | | Probably neurotic. |
| Atresia vaginæ | 2 | | 2 | | | 1 | 1 | | | | | 1 | | | | 1 | | | | | | | | | | 2 | | | 1 transferred to surgical ward, where ovaries were removed. |
| Ulcer of vagina | 1 | | 1 | | | | 1 | | | | | | | | 1 | | | | | | | 1 | | | | | | | Probably syphilitic. |
| Malignant disease of vagina | 1 | | 1 | | | | | 1 | | | | | | | 1 | | | | | | | | | | | 1 | | | Induction of premature labour. |
| Dyspareunia | 2 | | 2 | | | 1 | 1 | | | | | | 1 | | 1 | | | | | | | 1 | | | | 1 | | | |
| Cystitis | 6 | | 6 | | | 1 | 1 | 1 | 1 | | 2 | | 1 | | 1 | 4 | | | | | | | | 6 | | | | | 1 readmission. |
| Painful micturition | 1 | | 1 | | | | 1 | | | | | | | | | 1 | | | | | | | | 1 | | | | | |
| Rectocele | 1 | | 1 | | | | | | | | 1 | | 1 | | | | | | | | | | | 1 | | | | | |
| Parovarian cyst | 1 | | 1 | | | | | 1 | | | | | | 1 | | | | | | | | 1 | | | | | | | Paracentesis. |
| Total | 1900 | 900 | 1000 | | | | | | | | | | | | | | | | | | 463 | 560 | 190 | 226 | 68 | 90 | 179 | 124 | |
| | | | | | | | | | | | | | | | | | | | | | 1023 | | 416 | | 158 | | 303 | | |
| | | | | | | | | | | | | | | | | | | | | | 1900 | | | | | | | | |

## Table IV.—*Table of Mortality.*

| DISEASE. | Total. | | Age. | | | | | | | | Mortality per cent. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. discharged. | No. died. | Under 5 | 5–10 | 10–20 | 20–30 | 30–40 | 40–50 | 50–60 | 60–70 | Above 70 | |
| **1. General Diseases.** | | | | | | | | | | | | |
| Measles | 14 | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 6·6 |
| Scarlet fever | 35 | 3 | 1 | 1 | ... | 1 | ... | ... | ... | ... | ... | 7·8 |
| Enteric fever | 100 | 18 | ... | 1 | 8 | 6 | 2 | 1 | ... | ... | ... | 15·2 |
| Erysipelas | 40 | 2 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | 4·7 |
| Pyæmia | ... | 4 | 1 | ... | ... | 1 | 2 | ... | ... | ... | ... | ... |
| Septicæmia | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| Diphtheria | 28 | 36 | 27 | 8 | 1 | ... | ... | ... | ... | ... | ... | 56·2 |
| Pertussis | 10 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 10 |
| Syphilis | 5 | 2 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Hydrophobia | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... |
| Actinomycosis | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| Diabetes mellitus | 4 | 4 | ... | ... | ... | 1 | 3 | ... | ... | ... | ... | ... |
| Purpura | 2 | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... |
| Pernicious anæmia | 4 | 2 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... |
| Anæmia | 16 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 5·8 |
| Leucocythæmia | 1 | 2 | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... |
| General tuberculosis | ... | 3 | ... | 1 | ... | 1 | 1 | ... | ... | ... | ... | ... |
| General malignant disease | ... | 3 | ... | ... | 1 | ... | ... | ... | 2 | ... | ... | ... |
| **2. Diseases of the Respiratory Organs.** | | | | | | | | | | | | |
| Acute laryngitis | 3 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Malignant disease of larynx | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| Acute bronchitis | 35 | 5 | 5 | ... | ... | ... | ... | ... | ... | ... | ... | 12·5 |
| Chronic bronchitis | 30 | 10 | ... | ... | ... | ... | ... | 3 | 6 | 1 | ... | 25 |
| Broncho-pneumonia | 3 | 2 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Acute pneumonia | 52 | 9 | 1 | 2 | ... | 3 | 1 | 1 | ... | 1 | ... | 16·3 |
| Phthisis | 38 | 33 | 3 | ... | 2 | 7 | 10 | 7 | 4 | ... | ... | 46·1 |
| Empyema | 11 | 3 | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | 21·4 |
| Intrathoracic tumour | 2 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| **3. Diseases of the Organs of Circulation.** | | | | | | | | | | | | |
| Pericarditis | 2 | 2 | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... |
| Adherent pericardium | ... | 3 | ... | ... | 1 | 1 | ... | ... | ... | 1 | ... | ... |
| Dilatation of heart | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| Fatty degeneration of heart | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| Aneurysm of heart | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... |
| Malformation of heart | 4 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Mitral disease | 41 | 9 | ... | ... | 2 | 4 | 1 | 2 | ... | ... | ... | 18 |
| Aortic disease | 8 | 7 | ... | ... | ... | ... | 3 | ... | 3 | 1 | ... | 46·6 |
| Mitral and aortic disease | 18 | 8 | ... | ... | 1 | 2 | 4 | 1 | ... | ... | ... | 30·7 |
| Thoracic aneurysm | 9 | 4 | ... | ... | ... | ... | 1 | 2 | 1 | ... | ... | 30·7 |
| Thrombosis of popliteal artery | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... |

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TABLE IV—*continued.*

| DISEASE. | Total. | | Age. | | | | | | | | Mortality per cent. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. discharged. | No. died. | Under 5 | 5–10 | 10–20 | 20–30 | 30–40 | 40–50 | 50–60 | 60–70 | Above 70 | |
| **4. DISEASES OF THE DUCTLESS GLANDS.** | | | | | | | | | | | | |
| Addison's disease | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... |
| **5. DISEASES OF THE DIGESTIVE ORGANS.** | | | | | | | | | | | | |
| Stomatitis | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Ulcer of œsophagus | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| Malignant disease of œsophagus | 3 | 2 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... |
| Malignant disease of stomach | 5 | 8 | ... | ... | ... | ... | 1 | ... | 5 | 1 | 1 | 61·5 |
| Gastro-intestinal catarrh | ... | 4 | 3 | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| Diarrhœa | 21 | 2 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 8·6 |
| Enteritis | 1 | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... |
| Intestinal obstruction | 5 | 10 | 4 | ... | .. | 1 | ... | 2 | 1 | 2 | ... | 66·6 |
| Tubercular ulceration of intestine | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| Chronic peritonitis | 11 | 3 | ... | ... | 1 | 1 | ... | 1 | ... | ... | ... | 21·4 |
| Malignant disease of peritoneum | 1 | 3 | ... | ... | ... | ... | 1 | ... | ... | 2 | .. | ... |
| Cirrhosis of liver | 16 | 8 | ... | ... | .. | ... | ... | 2 | 5 | 1 | ... | 33·3 |
| Hypertrophic cirrhosis | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... |
| Abscess of liver | ... | 1 | ... | . | 1 | ... | ... | ... | ... | ... | ... | ... |
| Malignant disease of liver | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| Abdominal tumour | 8 | 2 | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | 20 |
| Abdominal abscess | 4 | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... |
| Abdominal hydatid | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| **6. DISEASES OF THE GENITO-URINARY SYSTEM.** | | | | | | | | | | | | |
| Acute nephritis | 24 | 4 | 1 | ... | 2 | 1 | ... | ... | ... | ... | ... | 14·2 |
| Chronic nephritis | 21 | 18 | ... | ... | ... | 3 | 4 | 4 | 1 | ... | 1 | 38·2 |
| Malignant disease of kidney | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| Tubercular disease of bladder | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... |
| **7. DISEASES OF THE NERVOUS SYSTEM.** | | | | | | | | | | | | |
| Acute meningitis | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Tubercular meningitis | ... | 4 | 1 | 2 | ... | ... | 1 | ... | ... | ... | ... | ... |
| Hemiplegia | 18 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 5·2 |
| Cerebral hæmorrhage | ... | 8 | ... | ... | ... | ... | ... | 3 | 3 | 1 | 1 | ... |
| Cerebral tumour | 17 | 3 | ... | ... | 1 | ... | 1 | ... | 1 | ... | ... | 15 |
| Cerebral abscess | ... | 2 | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... |
| Cerebellar abscess | ... | 2 | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... |
| Ophthalmoplegia externa | 1 | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... |
| Epilepsy | 18 | 1 | 1 | ... | ... | ... | ... | .. | ... | ... | ... | 5·2 |
| Spinal meningitis | ... | 1 | ... | ... | ... | 1 | . | ... | ... | ... | ... | ... |
| Acute myelitis | ... | 1 | ... | ... | 1 | ... | ... | ... | .. | ... | ... | ... |
| Postero-lateral sclerosis | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| Disseminated sclerosis | 10 | 1 | ... | ... | ... | . | . | 1 | .. | ... | ... | 9 |
| **8. POISONING.** | | | | | | | | | | | | |
| Carbolic acid | 2 | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... |

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TABLE IV—*continued.*

| DISEASE. | Total. | | Age. | | | | | | | | Mortality per cent. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. discharged. | No. died. | Under 5 | 5–10 | 10–20 | 20–30 | 30–40 | 40–50 | 50–60 | 60–70 | Above 70 | |
| **9. SURGICAL AND MISCELLANEOUS.** | | | | | | | | | | | | |
| Foreign body in œsophagus | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... |
| Foreign body in larynx | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Cicatrix in trachea | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Symmetrical sloughs (? spinal) | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| Brought in dead | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| Unclassified | 17 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 5·5 |
| **10. DISEASES OF THE FEMALE GENERATIVE ORGANS.** | | | | | | | | | | | | |
| Parametritis | 17 | 2 | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | 10·5 |
| Pelvic hæmatocele | 2 | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... |
| Uterine fibroid | 11 | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 8·3 |
| Malignant disease of uterus | 10 | 2 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | 16·6 |
| Extra-uterine fœtation | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| Puerperal septicæmia | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... |
| Labial thrombus | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... |

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TABLE V.—*Cases of Infectious Diseases originating in Hospital.*

| | Sex. | Age. | Disease for which admitted. | Disease originating in hospital. | Date of attack. | Result. | Remarks. |
|---|---|---|---|---|---|---|---|
| T. L. | M. | 4 | Burn of arm | Measles | April 1 | C. April 13 | From Victoria Ward. |
| I. G. | M. | 1 4/12 | Infantile paralysis | „ | March 28 | C. „ 23 | Ditto. |
| B. S. | M. | 5 | Angular curvature | „ | June 10 | C. June 14 | Ditto. |
| B. S. | M. | 5 | Disease of knee | „ | „ 12 | C. „ 22 | From Albert Ward. |
| L. E. | F. | 1 8/12 | Disease of hip | „ | April 1 | C. April 14 | From Victoria Ward. |
| E. O. | F. | 1/12 | Nævus of nose | „ | „ 2 | C. „ 17 | Ditto. Died later of diphtheria. |
| E. W. | F. | 2 | Fractured femur | „ | March 15 | C. „ 23 | Ditto. |
| C. H. | F. | 2½ | Wound of groin | „ | April 1 | C. „ 27 | Ditto. |
| E. H. | F. | 3 | Deformity of foot | „ | „ 1 | C. May 11 | Ditto. |
| E. W. | F. | 3½ | Disease of hip | „ | „ 1 | C. „ 26 | Ditto. |
| S. K. | F. | 6 | „ | „ | June 9 | C. June 25 | Ditto. See also Pertussis. |
| H. W. T. | F. | 24 | — | „ | „ 17 | C. July 2 | A probationer. |
| H. C. | M. | 11 | Chorea | Scarlet fever | March 29 | C. April 23 | From Arthur Ward. |
| F. F. C. | M. | 23 | — | „ | May 2 | C. June 2 | A house-surgeon. |
| L. E. | M. | 5 | Paraplegia | „ | „ 12 | C. „ 4 | From Victoria Ward. |
| T. C. | M. | 4 | Disease of knee | „ | April 1 | C. „ 30 | From Albert Ward. |
| E. G. | M. | 1½ | Fractured femur | „ | July 8 | C. August 3 | From Elizabeth Ward. |
| A. C. | M. | 2 | — | „ | „ 13 | C. „ 31 | From Ophthalmic Ward. |
| F. S. | F. | 8 | Disease of knee | „ | Nov. 23, 1883 | C. February 11 | From Alexandra Ward. |
| E. M. | F. | 8 | „ | „ | February 26 | C. March 30 | Ditto. |
| A. S. | F. | 24 | — | „ | July 7 | C. August 13 | A probationer. |
| A. B. | F. | 7 | Foreign body in œsophagus | „ | „ 5 | D. „ 19 | From Christian Ward. Died from foreign body in œsophagus. |
| A. B. | F. | 46 | Enteric fever | „ | „ 9 | C. September 10 | From Christian Ward. |

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TABLE V—*continued.*

| Initials. | Sex. | Age. | Disease for which admitted. | Disease originating in hospital. | Date of attack. | Result. | Remarks. |
|---|---|---|---|---|---|---|---|
| M. W. | F. | 6 | Disease of hip | Scarlet fever | October 5 | C. October 29 | From Victoria Ward. |
| M. F. | F. | — | — | „ | „ 25 | C. November 21 | Sister "Magdalen." |
| M. C. | F. | 23 | Syphilis | „ | „ 24 | C. „ 21 | From Magdalen Ward. |
| A. B. | F. | 18 | Tubercular peritonitis | Enteric fever | Nov. 20, 1883 | C. January 19 | From Christian Ward. |
| S. G. | F. | 44 | — | „ | February 28 | D. March 12 | A nurse. |
| E. R. | F. | — | — | „ | October 30 | C. December 22 | A nurse. |
| E. O. | F. | 1 1/12 | Nævus of nose | Diphtheria | April 17 | D. April 25 | From Victoria Ward. See also Measles. |
| A. S. | F. | — | — | „ | September 6 | C. September 12 | A nurse. |
| A. B. | M. | 5 | Disease of knee | Pertussis | Dec. 17, 1883 | C. February 8 | From Victoria Ward. |
| M. H. | F. | 1 8/12 | Phthisis | „ | (?) | D. January 16 | Ditto. |
| S. K. | F. | 6 | Disease of hip | „ | Nov. 29, 1883 | C. March 7 | Ditto. See also Measles. |
| M. G. | F. | 4 | „ | „ | Dec. 7, 1883 | C. May 6 | Ditto. |
| E. A. H. | F. | 4 | Diphtheria | „ | June 11 | C. July 9 | From Charity Ward. |
| M. P. M. | M. | 38 | Syphilis | Facial erysipelas | August 4 | C. August 22 | From George Ward. |
| D. K. | M. | 34 | Chronic renal disease | Erysipelas of legs | December 20 | D. December 25 | Ditto. After puncture. |
| A. T. | F. | 20 | Gonorrhœal rheumatism | Facial erysipelas | Dec. 18, 1883 | C. January 24 | From Charity Ward. |
| M. S. | F. | 31 | Cirrhosis of liver | „ | October 1 | C. October 12 | From Christian Ward. |

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## TABLE VI.—*Pernicious Anæmia.*

| Initials, age, and sex. | Previous illness. | General symptoms. | Condition of blood. | Hæmorrhages. | Effects of treatment. | Post-mortem examination. |
|---|---|---|---|---|---|---|
| J. W., 43, M. | None | Much anæmia and weakness. Systolic murmur at apex and right base | Red cells do not form good rouleaux. White corpuscles somewhat in excess | Large hæmorrhages into right retina | Improved under arsenic | — |
| G. M., 59, M. | None | Much anæmia and weakness. Skin pale yellow. Systolic murmur at apex and base. Occasional delirium | Red cells do not form rouleaux. Many of the corpuscles are oval, some pear-shaped; all very pale. Decided excess of white cells | Numerous retinal hæmorrhages. A small extravasation on back of hand | Very great improvement temporarily under arsenic | Pigmentation of axillæ, backs of hands, scrotum, and penis. Much pale yellow subcutaneous fat. A little effusion into serous cavities. Some mottling of heart; mitral valve thickened. Liver fatty. Spleen rather tough. Kidneys slightly granular and mottled. Peyer's patches not enlarged. Marrow of rib healthy. Blood deficient in cells. Red corpuscles pale; do not form rouleaux. No increase in white cells. Much granular matter. |
| W. P., 47, M. | 8 years ago had tertian ague, which | Well nourished, but very anæmic. Skin pale green. No cardiac murmur on admission, but a faint systolic | Number of corpuscles 60 per cent. of normal. Red cells all smaller than normal. Some are only a quarter of average size, and have a | — | Improved under quinine and iron | — |

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TABLE VI.—*Pernicious Anæmia (continued).*

| Initials, age, and sex. | Previous illness. | General symptoms. | Condition of blood. | Hæmorrhages. | Effects of treatment. | Post-mortem examination. |
|---|---|---|---|---|---|---|
| | lasted a year | heard later at base. Occasional attacks of faintness. Some œdema of feet | very dark centre. One or two are nucleated. There are free masses of hæmatoidin, averaging in size about five corpuscles. There are some very minute white cells | | | |
| M. S., 65, F. | 9 years ago had ague badly | Much anæmia and weakness, pains in the limbs, and œdema of legs. Systolic murmur all over cardiac area. Spleen felt below the ribs. Slight albuminuria | Red cells do not form rouleaux, and are of different sizes and shapes, most being oval or tailed; they are very pale. White corpuscles normal in appearance and number | Hæmorrhages in both retinæ | Ferri tart., followed by arsenic; improvement | — |
| L. T., 47, F. | None | Much anæmia. Skin pale yellow. Systolic murmur at apex and right base. Much œdema of feet. Albuminuria | Examined after death. Red corpuscles very pale, run into masses instead of forming rouleaux, and are of very variable shapes and sizes. White corpuscles not increased | Small hæmorrhages found in both retinæ after death | — | Body fat. Slight general dropsy. Heart pale, flabby, mottled. Nothing definitely abnormal in kidneys. |

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TABLE VII.—*Fatal Cases of Intestinal Obstruction.*

| Initials, age, and sex. | Symptoms. | Treatment. | Post-mortem examination. |
|---|---|---|---|
| C. H., 4 months, M. | Frequent vomiting, passage of blood and mucus *per anum* on admission. Next day abdomen, which was previously soft, was distended, tender, and tympanitic. Blood still came from the bowel, but no fæces or flatus. No tumour was felt | Abdominal section was performed. The small intestine was invaginated into the cæcum and ascending colon. The intussuscepted gut, which was about 3 inches long, was reduced, and the distended coils punctured here and there with a fine trochar | No peritonitis. There had evidently been an intussusception, the ilio-cæcal valve being the starting point. 5 to 6 inches down the large intestine there was a well-defined circular ring of congestion, and beyond that the bowel was healthy. About 1 inch of small and nearly 5 of large intestine had been intussuscepted, the whole of the tract being intensely congested, hard, and brawny. There was extensive superficial ulceration of the mucous membrane. |
| C. W., 55, M. | Abdomen swollen and tender, walls rigid. A mass felt in region of liver. The pain in abdomen became severe, and the bowels difficult to move. There was no evacuation for the five days preceding death | Subcutaneous injections of morphia, cannabis indica, and enemata | There was acute general peritonitis, with much lymph. The liver was very large, and contained numerous masses of new growth. There was a malignant stricture at the upper parts of sigmoid flexure, consisting of two fleshy elevations of the mucous membrane, with thickening of the coats of the bowel and puckering of the peritoneum. The actual narrowing of the calibre of the bowel was not great. |
| J. B., 43, M. | Symptoms began a week before admission with colic, flatulence, slight vomiting and constipation. On admission there was much pain and swelling of abdomen. The bowels had not been opened for 4 days. 5 days after admission he passed a small quantity of soft fæces and much flatus. Next day he again had a small evacuation. He died during operation | Oil enemata, belladonna and nux vomica, opium, and the interrupted current to abdomen. An attempt was made to perform right lumbar colotomy, but the man died before the abdomen was opened | There was a little blood-stained fluid in abdomen, and some streaky redness of peritoneum. The beginning of the ascending colon was constricted by a diverticulum springing from the small intestine 3 feet above the valve. The cæcum and small intestines were much distended. |
| H. B., 46, M. | Abdomen not distended. A hard mass was felt in right iliac region and several nodules in abdominal wall. The bowels were constipated, but could be made to act with medicine. Three days before death he began to have severe abdominal pain, tenderness, and vomiting | Enemata | There was recent and general peritonitis. Liquid fæces could be seen welling up from a perforation in the anterior wall of cæcum. The cæcum was infiltrated with growth, and the mucous membrane was soft, shreddy, and ulcerated. The growth extended to the abdominal |

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TABLE VII.—*Fatal Cases of Intestinal Obstruction (continued).*

| Initials, age, and sex. | Symptoms. | Treatment. | Post-mortem examination. |
|---|---|---|---|
| | | | wall as far as the muscles. Both kidneys were extensively infiltrated. |
| H. T., 22, M. | Was sick and had colicky pains 4 days before admission. Next day the vomiting was very severe. The bowels were obstinately confined. He had had similar attacks previously. On admission his expression was anxious. The abdomen was distended, tympanitic, and painful. The vomiting was very frequent, and the bowels remained constipated | At first enemata were given without effect. The day after admission abdominal section was performed and a band divided, but he died next day | There was general peritonitis, most marked about the abdominal wound. The obstruction had been caused by a band arising from the mesentery and constricting the small intestine 11 feet above the valve. Above the small intestine was much distended, below nearly empty. The intestine at the point of obstruction was permanently narrowed, only admitting the point of the finger. Just below the obstruction there was a small oval simple ulcer. |
| J. S., 4, M. | A month before admission had sickness and abdominal pain. The bowels were constipated for 14 days, and then diarrhœa set in. On admission he was much emaciated and torpid, but complained occasionally of abdominal pain. The abdomen was distended and tender, and the coils of intestine could be seen moving. There was constant vomiting. Diarrhœa soon set in, the stools consisting mainly of mucus. The local pain and vomiting continued until death, 15 days after admission | Enemata, opium, and belladonna locally | No peritonitis. Intestines down to lower 3 inches of ileum distended with yellow fæces. The lower 3 inches of ileum, the colon, and sigmoid flexure collapsed. There was some semi-solid fæcal matter in the colon and rectum. The obstruction was due to an old irreducible intussusception, the invaginated portion being firmly united, and having a small central lumen. The intussuscepted part was sloughing. |
| S. W., 60, F. | 3 months before admission the motions became blood-stained and offensive. 3 days ago she began to vomit. On admission the abdomen was much distended, and the peristaltic movements of the intestine were visible. Masses, apparently fæcal, could be felt. 2 inches above anus a large malignant mass was detected, nearly occluding the passage. Vomiting was severe. Some liquid fæces escaped at times from the anus | Left lumbar colotomy was performed the day after admission. A little fæcal matter escaped from the wound, but the vomiting continued, and she died on the 4th day | The whole of the rectum was converted into a solid tube, and its walls infiltrated with growth. The uterus, although retaining its natural shape, was evenly infiltrated with growth. The retro-peritoneal glands were much affected. There was no peritonitis. |

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TABLE VIII.—*Fatal Cases of Cerebral Hæmorrhage, in which a Post-mortem Examination was made.*

| Initials, age, and sex. | Previous history and history of attack. | Symptoms and progress. | Post-mortem examination. |
|---|---|---|---|
| I. H., 54, M. | Has been subject to bronchitis. Whilst lifting a weight he suddenly staggered, but did not seem to lose consciousness. It was noticed that there was paralysis on the right side of the face and body | He had a kind of fit after admission, and rapidly became quite unconscious, passing his urine under him. The pupils were contracted, and did not act to light | A little blood beneath arachnoid at base. Arteries moderately diseased. No aneurysm. There was a very large hæmorrhage in the left hemisphere, which had ruptured into the ventricles. There was also a hæmorrhage into the pons. No miliary aneurysms found. The kidneys were rather large and the capsule slightly adherent, but there was no evident change in cortex. |
| W. H., 63, M. | Not stated | Admitted unconscious. Left pupil smaller than right; both active to light. He moved all his limbs except the right leg. No facial paralysis. Slight divergent squint. The heart was enlarged, but there was no murmur | No urates in great toe-joints. Some blood beneath the arachnoid. Arteries at base much degenerated. No aneurysm or ruptured vessel found, and no miliary aneurysms. There was a large hæmorrhage in the white matter of the left hæmorrhage which had burst into the ventricles. There was a small extravasation in the right optic thalamus, several in the pons, and one in the medulla oblongata. The kidneys were granular, and there was much hypertrophy of heart. |
| J. R., 55, M. | Patient was a gas-fitter, and had had gout. Began to have severe headache 3 weeks ago | On admission he talked sensibly, but his memory was very defective. He walked with his legs far apart, and tended to fall backwards. The reflexes were normal. There was no paralysis and no loss of sensation. There was no albuminuria. Two | Much urate of soda in right great toe-joint. There was much blood beneath the arachnoid all over the surface of the brain. A small aneurysm, which had ruptured, was found on the left middle cerebral artery, just beyond its origin from the |

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TABLE VIII.—*Fatal Cases of Cerebral Hæmorrhage, in which a Post-mortem Examination was made (continued).*

| Initials, age, and sex. | Previous history and history of attack. | Symptoms and progress. | Post-mortem examination. |
|---|---|---|---|
| | | days later he had great pain in the head and down spine, and the left pupil was larger than the right | internal carotid. A small bulging also existed at the junction of the left anterior cerebral and communicating arteries. The arteries at the base were very tortuous. There were a few minute hæmorrhages in the substance of the brain. There was much dark clot in the posterior part of the spinal subarachnoid space, chiefly about the medulla and dorsal and lumbar regions. There was interstitial change in the kidneys and cardiac hypertrophy. |
| M. M., 49, F. | — | — | Much blood in subarachnoid space all over surface. Half an inch from its origin there was an oval aneurysm of the left middle cerebral, which had ruptured into the white matter of the left hemisphere, but had not opened into the ventricle. There was another smaller aneurysm of the right middle cerebral in the same position. There was no evident atheroma of the arteries at the base. The heart was moderately hypertrophied. The kidneys contained several small cysts, but were otherwise healthy. |
| C. W., | Bronchitis for 7 or 8 years. | She was admitted in a semi-unconscious condition. | There was a hæmorrhage in the left hemisphere, |

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| | | | |
|---|---|---|---|
| 74, F. | 3 days before admission was found unconscious. She recovered consciousness in half an hour, but soon relapsed | The right arm and leg were quite helpless, and sensation dulled. She had no control over the evacuations. The pulse was irregular, and the arteries hard and tortuous. There was some albumen in the urine. She died comatose 2 days after admission | which had burst through the ependyma, lacerating the optic thalamus and corpus striatum. There was some blood in the left lateral ventricle, and a very small quantity in the right. Kidneys were slightly granular. |
| J. R., 45, F. | Had rheumatic fever 2 or 3 years ago. Was found unconscious 2 days before admission, and has remained so ever since | On admission she was comatose. The pupils were much contracted. The right arm and leg appeared quite paralysed, the extremities on the left side being rigid. Whilst being examined she had a convulsion, which began in the left arm, spreading to the other limbs. A few hours later all the extremities were rigid. She could be roused, but did not speak. She became quite unconscious the next day and died | The left corpus striatum and brain substance outside it were lacerated by effused blood, which had ruptured into the lateral and other ventricles. There was slight interstitial change in the kidneys. |
| M. D., 51, F. | A week ago her face and legs began to swell, and her urine was dark and scanty | There was œdema of the legs and eyelids, headache, vomiting, vertigo, and drowsiness. There was much albumen in the urine, with epithelial and granular casts. The symptoms continued until 2 days before her death, when she became unconscious | Much subarachnoid hæmorrhage all over brain. Arteries at base not evidently diseased. No aneurysm. There was a small hæmorrhage in the left occipital lobe on the median aspect, which had ruptured into the subarachnoid space. The kidneys were granular, but there were signs of recent inflammation. |

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# SPECIAL ANALYSES AND ABSTRACTS.

## I.—ENTERIC FEVER.

F. S—, æt. 20, a painter, was admitted on January 24th. His illness began a fortnight ago with constipation.

On admission his temp. was 102°, the bowels confined, the spleen enlarged, and typhoid spots were found on the abdomen.

On February 6th he was very delirious, and diarrhœa set in. About this time superficial sloughs were found on the inner surface of each cheek, and a purple patch three inches in diameter appeared over the sacrum. He died on February 12th.

*Post-mortem examination.*—The mucous membrane of both cheeks was deeply and irregularly ulcerated, and there were sloughs about some of the ulcers. The tonsils were unaffected, but there was an abscess behind the right tonsil. The left arytenoid cartilage was loose and necrosed, and a sinus led down to it from the mucous membrane of larynx. The intestines showed the typical lesions of enteric fever. The ulcers were comparatively few, small, clean cut, and free from slough.

A. W—, æt. 17, female, was admitted on August 26th. Her illness began six weeks ago with general malaise. She became feverish and weak a fortnight ago and took to her bed.

On admission she complained of pain in the abdomen, sore throat, and weakness. There was no tenderness of the abdomen, and the spleen was not enlarged. The upper part of pharynx was covered by dull white, easily separable material, which was found to consist on microscopical examination mainly of epithelial elements. The glands of neck were not enlarged. The urine contained one third albumen and granular casts. The temperature was normal, but later it rose occasionally 1° to 3°. She became very feeble and delirious, the albuminuria persisted, and she died on August 31st.

*Post-mortem examination.*—In the lower part of ileum there were several ulcers of Peyer's patches partly healed. In some the muscular coat was visible, the slough apparently having recently separated. The upper part of the pharynx and upper surface of the soft palate were covered by thick false membrane, which could be peeled off. There was a little membrane on the under surface of epiglottis, but none in the larynx. There were evidences of tubular nephritis.

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## II.—ANÆSTHETIC LEPROSY.

R. B—, æt. 39, a coffee planter, was admitted on November 13th, 1883. The patient's mother has elephantiasis. He was born and has lived all his life in India. When he was thirty the fifth metatarsal bone of the left foot was removed for necrosis. This was followed by gangrene, and the thigh was amputated at its middle. Four years later he noticed loss of sensation in both hands and in the right foot. Shortly afterwards the fingers became bent, and the toes rigid and extended. Within the last year all the terminal phalanges of the toes and three from the fingers have come away. Blisters often come on the hand, burst, and leave sores.

*State on admission.*—The skin is dry and rough on exposed surfaces, moist over body generally. There are patches of complete cutaneous anæsthesia on both upper and lower extremities, over left eyebrow, and both ears.

The muscles of the arms are fairly developed and act well, those of the forearms are small and weaker than normal. The thenar and hypothenar eminences are gone, and the interossei are much wasted. There are some sores on the right olecranon, on the fingers, and on the backs of the hands. All the fingers are extended on the metacarpus, while the phalanges are flexed. The finger ends are much atrophied, the terminal phalanges being nearly absent. The nails are small and distorted. The skin of the fingers is smooth, shiny, and indurated. Both ulnar nerves are thickened. There is anæsthesia of the right lower extremity as far as the middle of the thigh. The popliteal nerve is enlarged, nodulated, and very tender. The toes are affected in the same way as the fingers, but the nails are quite absent. The tendon reflexes are normal.

On December 12th he was ordered Chian turpentine, gr. v, in a pill, three times a day. The anæsthesia became much less evident, and in some parts entirely disappeared. Fresh bullæ occasionally appeared on the fingers. On February 18th he had an attack of lymphangitis of the right arm commencing with a painful swelling of the ring finger. The attack disappeared in a week. He was discharged relieved on March 4th, 1884.

## III.—HYDROPHOBIA.

H. P—, æt. 40, male, was admitted on June 1st. He was bitten by a small dog 6 or 7 weeks ago. On May 29th he was cold all over and did not feel well. Next day he objected to drink, slept badly, and was very restless.

On admission his face expressed extreme terror. The pupils were widely dilated, the eyes prominent and staring. He was very restless, and tossed about in bed. He was constantly spitting up tenaceous frothy mucus. He was quite sensible. When asked to drink he looked away, and then suddenly snatched at the vessel, put it to his mouth, spilling a large quantity and drinking a little. Later he had spasms of the muscles of the back, neck, and limbs, lasting a few seconds. He asked the porter not to leave him as he felt he might injure his wife or the nurses. He did not seem to be affected by sudden noise or draught.

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He perspired much, and continued very restless. There was occasional vomiting. Tetanic seizures set in towards the end, in one of which he suddenly died about twenty-two hours after admission. The treatment consisted of enemata of bromide of potassium and hydrate of chloral, and of hypodermic injections of curare. No post-mortem examination was made.

## IV.—ACTINOMYCOSIS.

J. R. W—, æt. 30, joiner, was admitted on October 1st. He had had no illness since measles in childhood, and had never been abroad. Three months ago he had pain in the right side and vomiting, which lasted a month. He has become very weak, and has lost flesh.

On admission he complained of pain in the left hypochondrium, where there was a tender lump the size of a small orange. There was fluctuation over it. It did not move with respiration. The temp. was 101·2°

On October 4th the cavity was incised, and 2 oz. of pus and blood evacuated. The liver could be felt moving up and down on the floor of the abscess. The discharge from the wound became offensive. His temperature remained elevated until November 3rd when an abscess in the right lumbar region was opened, and 2 oz. of foul pus evacuated. On November 28th he expectorated three quarters of a pint of muco-purulent fluid. Over the lower third of right lung there was dulness, diminished voice sounds, and coarse crepitation. He died on December 9th.

*Post-mortem examination.*—The liver contained several circular well-defined masses. On squeezing the cut surface some pus exuded, and a honeycombed mass of coloured septa remained behind. The diaphragm was adherent to the surface of the liver. The lump that was felt during life in the left hypochondrium and epigastrium was one of the superficial masses in the liver. There was lobular pneumonia in the lower lobes of both lungs, but no tubercles in the organs. There was intense pericarditis, the cavity containing a pint and a half of fluid. The vermiform appendix an inch from its extremity was ulcerated, inflamed, and dilated, and outside it was the lumbar abscess which had been evacuated during life.

Microscopical examination showed the appearances peculiar to actinomycosis.

E. G—, æt. 19, female, was admitted on April 3rd. She began to be unwell six weeks ago, when the stomach felt full. Three weeks later there was severe pain in the left side, sickness, and swelling of the abdomen.

On admission she was very anæmic and complained of shortness of breath. There were two or three enlarged glands above the left clavicle, none elsewhere. On the front of left chest there were numerous enlarged veins, and there was some bulging. The temperature was 102·4°. There was a systolic murmur audible all over the cardiac area. Otherwise there was no sign of visceral disease. On April 7th she had severe pain in the left side and pleuritic friction was heard. The last two days she has had occasional retching. The temperature still remains high. On April 25th it was noted that she could not sleep on account of severe pain in the right side and abdomen. The abdomen was tumid and tender. She died the next day.

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*Post-mortem examination.*—There was recent and general peritonitis with about two pints of turbid yellow fluid in abdomen. The liver was large, and on section was found to contain many abscesses of varying sizes. Most were not bigger than a walnut, but one in the posterior border of right lobe was much larger. It had no definite sac, but the pus was contained in the meshes of a mass of honeycombed tissue. The smaller abscesses were lined by a soft material and had not the curious honeycombed appearance. There was slight thickening of the mitral valve. There was recent lymph on both pleuræ. The other organs were healthy, and there was no sign of tubercle.

Microscopical examination subsequently proved the case to be actinomycosis.

## V.—THORACIC ANEURYSM.

W. S—, æt. 48, male, was admitted on December 24th, 1883. There was great dyspnœa and cyanosis, but no stridor. There was dulness and bulging, but no pulsation over manubrium. A double bruit was heard over this area, and a systolic murmur at the apex. The left radial pulse was feebler than the right. The legs were œdematous. There was no albumen in the urine. Later, pulsation was felt over the dull area, there was slight albuminuria, the œdema of the legs increased, and some swelling of the right arm also appeared. The vocal cords were found to move well. On January 7th the patient had a rigor with rise of temperature. Next day a bruise-like surface was seen on the front of the right leg, which was painful. He died the same day.

*Post-mortem examination.*—There was an aneurysm the size of the largest orange, involving the left wall of the ascending arch and the under surface of the transverse arch. It was sacculated, and reached within 2 inches of the aortic valves. The orifice between it and the aorta was large and well defined. The large vessels coming off from the aorta were not involved. The aneurysm contained much soft, dark, and a little decolourised clot. The sac was adherent to the pulmonary artery, and there was a narrow slit of communication between them. The left innominate vein and the superior cava were much compressed. There was no pressure on the œsophagus, bronchus, or trachea, but the left recurrent laryngeal was stretched. There was slight hypertrophy of the heart, but the valves were healthy. There was general dropsy and chronic congestion of the viscera.

J. H—, æt. 50, male, was admitted on March 1st. He had much dyspnœa and marked stridor. There was some dysphagia. The pupils were equal. The larynx was normal. The heart was healthy. He complained of much pain in the left side. On March 3rd he began to spit up bright frothy blood. He died next day after a severe loss of blood.

*Post-mortem examination.*—The heart was a little hypertrophied, the valves healthy. There was a saccular aneurysm arising from the upper part of the descending arch. It was adherent above to the apex of the left lung, into which it had opened. The sac contained very little clot. It lay upon the œsophagus, and must have pressed on it during life. The bodies of the dorsal vertebræ from the 2nd to the 7th were eroded. Just above the sinuses of Valsalva there was another aneurysm with thin walls, the size of a large marble.



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F. T—, æt. 43, male, was admitted on October 2nd. He had some cough and difficulty in swallowing. A diastolic aortic murmur was heard. The temp. was 101°. The urine contained albumen and granular casts. On October 4th there were the signs of pneumonia over the right lung. He died on October 7th.

*Post-mortem examination.*—Recent pericarditis. There was an aneurysm bulging backwards from the lowest part of the ascending aorta, which had perforated the left auricle. All the valves were normal, but the left ventricle was hypertrophied. There was some pneumonia of right lower lobe. The kidneys were firm, and contained cysts.

S. F—, æt. 46, female, was admitted on May 27th. She began to suffer from palpitation and shortness of breath in the previous winter. Her neck began to swell five weeks ago, and she had difficulty in swallowing.

On admission the face and neck were very œdematous. There was much distension of the veins in the front of the chest and down the arms. There was some dulness and pulsation over the upper part of chest. All over the cardiac area, but loudest at the base, there was a prolonged musical murmur occupying both systole and diastole. The cough was stridulous. No change was found in the larynx. The pulses and pupils were equal. The urine contained a trace of albumen. The œdema increased much and spread to the arms and front of chest, the parts contrasting greatly with the emaciated condition of the lower limbs. She had frequent paroxysms of dyspnœa, and towards the end was delirious. A few days before death an extensive hæmorrhagic eruption, due to the rupture of distended vessels, appeared on the trunk and extremities. She died on August 1st.

*Post-mortem examination.*—There was an aneurysm, 2 inches in diameter, arising from the transverse arch 3 inches above the valve, and bulging forwards and to the right. There was some recent and a little adherent clot in the sac. In front it was very thin and adherent to the left innominate vein, with which it communicated by two small smooth-edged openings. The valves were competent. The kidneys were small and granular.

## VI.—ADDISON'S DISEASE.

W. H—, æt. 40, male, was admitted on March 8th. His skin began to get darker and he became weak ten months ago.

On admission the skin was dirty brown, most marked on the axillæ, groins, and extensor surfaces of the arms and legs. There was a black patch on the inner surface of each cheek. There was some dulness at both apices with prolonged expiration. He was very weak. The cardiac sounds were feeble. There was no sign of vertebral caries. He had occasional vomiting. On March 18th he had a rigor, and his temp. was 103·8°, but it was normal the next day. On March 21st he complained of great pain across the chest, his expression was very anxious, and he had much dyspnœa and retching. The temp. was 101·4°. Nothing definite could be heard in the chest. He died the same day.

*Post-mortem examination.*—Both suprarenals were much enlarged, thickened and converted into masses containing tubercular and caseous material. There

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was acute pericarditis, but no tubercles were seen. There were calcareous nodules at the apices of both lungs, and a calcareous mass on the surface of the liver. In the large intestine a tubercular ulcer was found.

## VII.—ACUTE ENTERITIS AND PERITONITIS.

*Fatal case.*

H. E—, æt. 21, plumber, was admitted on May 29th. Six weeks before admission he had severe cramp in the abdomen which lasted two days and a half. The day before admission he again complained of severe pain in the abdomen. On examination the face was pinched, the skin hot and dry, the temp. 102°. The abdomen was distended and tender and the walls rigid. It was tympanitic all over. The coils of intestines could be plainly felt. The respiration was thoracic. The heart, lungs, and urine were normal. The stools were finely divided, dark, contained some mucus, but no blood. Until his death, which took place on June 8th, he vomited constantly. The bowels were much relaxed, and the stools had the same character as on admission.

*Post-mortem examination.*—Recent and general peritonitis with a moderate amount of pus. The small intestine contained brownish-red liquid fæces. Its mucous membrane was soft and swollen. Twelve feet above the valve there were three or four linear transverse ulcers with ragged edges. One of these had perforated. A little lower down there were a few similar ulcers. All seemed to occupy the position of the valvulæ conniventes. There were scattered patches of congestion and hæmorrhage. The solitary and agminated glands were healthy. The mucous membrane of the large intestine was swollen, and in parts congested. There was no tubercle anywhere.

## VIII.—ACUTE MENINGITIS.

T. H—, æt. 1, male, was admitted on February 2nd. There was a history of syphilis in the parents. The child had been ailing since birth with eruptions and abscesses. When six months old he had been under treatment in the hospital for diarrhœa. Since then he had emaciated. The day before admission he had become rigid.

On admission he was comatose, the left pupil was larger than the right, and there was external squint. The legs were semiflexed, adducted, and crossed. The arms were adducted, flexed at the elbows, and the thumbs flexed into the palms beneath the fingers. The temp. was 103°, later 105°. After some fits the child died on February 4th.

*Post-mortem examination.*—There was intense meningitis all over the brain, but more at the vertex than the base. The velum interpositum was coated with lymph. The ventricles were a little large. There were no tubercles. A thick layer of lymph covered the pia mater of the cord posteriorly, but not anteriorly. There was extensive caries of the mastoid cells on both sides, and some pus in the middle ears. All the other organs were healthy.

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## IX.—CEREBRAL TUMOUR.

*Two fatal cases.*

J. B—, æt. 51, male, was admitted on July 21st. The legs became weak about two months ago, and the loss of power rapidly increased.

On admission he was drowsy and difficult to arouse. He appeared to understand quite well, and made remarks. He did not protrude the tongue or open his mouth when asked. He said he could not. There was a tendency to slur words. There was loss of power in the arms and hands, and the left arm was rigid at the elbow and shoulder. The reflexes were normal. Pupils normal; no squint; no nystagmus; no optic neuritis. He passed his urine into the bed. On July 26th he was less drowsy, but passed everything into the bed. He kept his eyes fixed on the observer, but did not seem to understand what was said. When spoken to loudly he made some attempt to answer or put out his tongue. He had some difficulty in swallowing. He rapidly became more and more drowsy. He died on July 31st.

*Post-mortem examination.*—There was a a fairly firm vascular growth, looking like a sarcoma, occupying the whole upper transverse part of the corpus callosum, fornix, velum interpositum, and the anterior genu and crura. Posteriorly it stopped short at the bend. The central ganglia were unaffected, but the white matter of the hemispheres was diseased, partly from pressure and partly from softening.

F. S—, æt. 18, female, was admitted on April 28th. Was quite well until five weeks ago, when headache and vomiting set in.

On admission she had headache and tenderness, mainly on the right side of the vertex. She was very drowsy. There was no decided weakness of the ocular muscles. The headache persisted, and she was often sick. She had occasional attacks of vertigo. On May 26th her speech was noted as slow and drawling. On June 20th there was optic neuritis on the left side, but not on the right. On June 1st she had two fits, which began with rigidity of the right arm. Subsequently she had another attack. The vomiting continued throughout, though less severe. She died suddenly on July 5th.

*Post-mortem examination.*—Occupying the outer two thirds of the right hemisphere of the cerebellum was a soft brain-like tumour, apparently a glioma. On the under surface it protruded through the cortex, forming a mass the size of a large cherry. The growth also involved the cortex on the upper surface. The white matter around was much softened. The tumour was fairly easily removed from the surrounding cerebellar substance.

## X.—CEREBRAL ABSCESS.

A. D—, æt. 15, male, was admitted on March 25th. He had a polypus removed from the ear on March 6th. On the 13th he shivered and was sick.

On admission his expression was anxious. He was slightly jaundiced. He

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had severe pain in the right ear and temple. There was no optic neuritis, no diplopia, nothing abnormal in the pupils. His temp. was 100°. He had frequent attacks of shivering with rise of temperature. At times the headache was intense. There was a little purulent discharge from the right ear. On April 10th an abscess which had formed in front of the right ear was opened. He had occasional sickness. Towards the end he became very drowsy, but had no paralysis. The discharge from the ear and abscess became fœtid, the lips and teeth became covered with sordes, and he died on May 3rd.

*Post-mortem examination.*—Much pus in the inferior longitudinal and right lateral sinuses. Dura mater at base of skull healthy. There was extensive disease of the right ear, and a direct communication between it and the lateral sinus. There was intense non-tubercular meningitis at the base of the brain, but not at the vertex. There was a small abscess in the right occipital lobe, and a larger one in the left temporo-sphenoidal lobe, which had apparently opened on to the surface at the base. The upper cervical region of the cord was unaffected, but below down to the cauda equina there was a layer of thick yellow lymph on the pia mater posteriorly. There were scattered patches of pneumonia in both lungs, and cloudy swelling of the liver and kidneys.

A. P—, æt. 14, male, was admitted on June 14th. Eight years ago had scarlet fever, and has had "gatherings" in the left ear ever since. On June 6th he complained of headache, and on the 9th was delirious.

On admission he was restless, and complained of frontal headache. He had some delusions. There was no paralysis. Temp. was 99·4°. He slept little, and continued delirious. On June 18th he had a rigor, and the temp. was 103°. On June 19th he continued much the same. There was some optic neuritis. There was no paralysis. He died comatose on June 21st.

*Post-mortem examination.*—There was an abscess in the right temporo-sphenoidal lobe containing much offensive pus. The dura mater over the right petrous bone was detached, thickened, and infiltrated with pus. The mastoid cells on the right side were filled with pus, and there was some also in the tympanum. There was a similar condition on the left side. There was acute meningitis at the base of the brain, and also of the spinal cord.

## XI.—CEREBELLAR ABSCESS.

H. T—, æt. 12, male, was admitted on January 2nd. Had a discharge from the ears four months ago. Two weeks ago had severe headache.

On admission he complained of pain in the back of the head. The face was worn and anxious, the eyes closed. There was photophobia. The pupils were large, equal, active. There was slight weakness of the right side of face. Taches cérébrales well marked. Temp. normal. There was double optic neuritis, and both external recti were weak, chiefly the left.

An abscess behind the right ear which was noticed on admission was opened on January 4th, and some bare bone was found. He rapidly became more unconscious. Before death, which occurred on January 4th, he had several fits.

*Post-mortem examination.*—There was distinct but not extensive caries of the

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right mastoid cells. The dura mater at the base of the skull was healthy, and no caries was seen on stripping it. There was a large abscess involving the right hemisphere of the cerebellum, and extending about a third of the way across the left hemisphere. There were no tubercles anywhere.

A. E—, æt. 7 months, female, was admitted on November 15th. When four months old had a fall, injuring her head. Became feverish and vomited three weeks ago, and has had several fits during the last twelve days.

On admission the child was unconscious, the neck and extremities were rigid, resp. 60, temp. 101·2°. Before death it was sick and had fits, the pupils became dilated and fixed, the eyeballs oscillated, and there was squint. The rigidity persisted. It died on November 23rd.

*Post-mortem examination.*—A little lymph at vertex of brain. There was acute meningitis at the base, and a superficial abscess involving the under surface of the left lobe of the cerebellum. The dura mater and surface of bone at base were healthy. There was pus in the mastoid cells on both sides. There was also acute meningitis of the spinal cord.

## XII.—ACUTE SPINAL MENINGITIS.

C. M—, æt. 25, iron-moulder, was admitted on April 18th. Was exposed to much cold ten days ago. Two days before admission was suddenly seized with violent pains in his head and limbs. He was very sick and feverish, and took to bed.

On admission he complained of violent pain in the head, aching pains in the limbs, and vomiting. The pupils acted well to light, there was no squint, and no optic neuritis. Temp. 104°. On April 24th he complained of pain down the back of the neck and spine on movement. He became very drowsy, and was delirious at night. On May 5th three or four blisters were noticed on the left foot. On May 9th it was noted that he cried out a good deal from pain, the right pupil was a little larger than the left, the evacuation was passed into the bed, he appeared to understand when spoken to, the *tâches cérébrales* were well marked. There was pyrexia throughout. He died on May 11th.

*Post-mortem examination.*—The arachnoid over pons was white and thickened. Otherwise the brain was healthy. The posterior surface of the spinal cord from the upper dorsal region downwards was covered with thick yellowish-white lymph. There were no tubercles and no disease of bones. The other organs were healthy.

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# SURGICAL REPORT.

## 1884.

By WILLIAM HENRY BATTLE, F.R.C.S.

### *General Statement.*

| | | | |
|---|---|---|---|
| Number of surgical beds | | | 241 |
| „ of patients in hospital January 1st, 1884 | 223 | Males | 125 |
| | | Females | 98 |
| „ „ „ December 31st, 1884 | 222 | Males | 127 |
| | | Females | 95 |
| „ „ treated to a termination during the year 1884 | | | 2699 |

| | Total. | Males. | Females. |
|---|---|---|---|
| Discharged cured | 2010 | 1267 | 743 |
| „ relieved | 574 | 285 | 289 |
| „ unrelieved | 44 | 30 | 14 |
| Died | 171 | 105 | 66 |
| | 2699 | 1587 | 1112 |

Average number of deaths 6·33 per cent.
„ „ days in hospital 26·5.
(not including the ophthalmic cases).

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## Table I.—*Abstract, showing Diseases, Injuries, &c., in*

| DISEASE. | Sex. | | Age. | | | | | | | | Duration before admission. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | Under 5 | 5–10 | 10–20 | 20–30 | 30–40 | 40–50 | 50–60 | Above 60 | Dys. 1–4 | Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–6 | Mts. 6–12 | Chronic. | Not reported. |
| **General Diseases.** | | | | | | | | | | | | | | | | | | |
| Erysipelas (arising) | 32 | 23 | 2 | 2 | 14 | 17 | 7 | 8 | 2 | 3 | ... | ... | ... | ... | ... | ... | ... | ... |
| Do. (admitted as such) | 42 | 34 | 4 | 1 | 10 | 20 | 19 | 13 | 5 | 4 | 44 | 24 | 8 | ... | ... | ... | ... | ... |
| Pyæmia (arising) | 5 | 2 | ... | ... | 1 | 1 | 2 | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Do. (admitted as such) | 3 | 3 | 3 | 1 | 1 | ... | ... | 1 | ... | ... | 2 | 3 | 1 | ... | ... | ... | ... | ... |
| *Syphilis*— | | | | | | | | | | | | | | | | | | |
| Primary | 1 | 2 | ... | ... | ... | 3 | ... | ... | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | ... |
| Secondary | 9 | 57 | ... | ... | 48 | 16 | 1 | ... | ... | 1 | 3 | 4 | 18 | 21 | 16 | 4 | ... | ... |
| Tertiary | 4 | 6 | ... | ... | ... | 6 | 2 | 2 | ... | ... | ... | ... | 2 | 2 | 5 | ... | 1 | ... |
| Congenital | ... | 2 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... |
| Struma | 2 | 1 | 1 | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 2 | ... |
| Rickets | ... | 2 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... |
| **Local Diseases.** | | | | | | | | | | | | | | | | | | |
| **Tumours.** | | | | | | | | | | | | | | | | | | |
| *Carcinomata*— | | | | | | | | | | | | | | | | | | |
| Scirrhus of— | | | | | | | | | | | | | | | | | | |
| *a.* Breast | ... | 23 | ... | ... | ... | ... | 7 | 8 | 4 | 4 | ... | ... | ... | ... | 8 | 5 | 9 | 1 |
| *b.* Do. (recurrent) | ... | 6 | ... | ... | ... | ... | 2 | 2 | 1 | 1 | ... | ... | 2 | 2 | 1 | 1 | ... | ... |
| *c.* Chest wall | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| *d.* Abdomen | ... | 2 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | 2 | ... | ... | ... |
| *e.* Glands | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| *Epithelioma*— | | | | | | | | | | | | | | | | | | |
| *a.* Tongue | 7 | ... | ... | ... | ... | ... | ... | 4 | 1 | 2 | ... | ... | ... | ... | 3 | 2 | 2 | ... |
| *b.* Mouth | 2 | 4 | ... | ... | ... | ... | ... | 2 | 2 | 2 | ... | ... | 1 | ... | 2 | 1 | 2 | ... |
| *c.* Sup. maxilla | 2 | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | 1 | ... | ... | 1 | ... |
| *d.* Lip | 8 | ... | ... | ... | ... | ... | ... | 1 | 4 | 3 | ... | ... | ... | ... | 2 | 3 | 3 | ... |
| *e.* Face | 4 | ... | ... | ... | ... | 1 | ... | 1 | ... | 2 | ... | ... | ... | 1 | 2 | ... | 1 | ... |
| *f.* Ear | 3 | ... | ... | ... | ... | ... | 2 | ... | ... | 1 | ... | ... | 1 | ... | 1 | ... | 1 | ... |
| *g.* Neck | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... |
| *h.* Glands | 3 | 1 | ... | ... | ... | ... | 1 | ... | ... | 3 | ... | ... | 1 | 1 | 1 | ... | 1 | ... |
| *j.* Digestive tract | 4 | 3 | ... | ... | ... | ... | 1 | ... | 2 | 4 | ... | ... | ... | ... | 2 | 1 | 4 | ... |
| *k.* Generative organs | 3 | 5 | ... | ... | ... | ... | 2 | 3 | 1 | 2 | ... | ... | ... | ... | 2 | 3 | 3 | ... |
| *Cylindroma*— | | | | | | | | | | | | | | | | | | |
| Rectum | 1 | 1 | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... |
| *Sarcoma*— | | | | | | | | | | | | | | | | | | |
| *a.* Face | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... |
| *b.* Head | 2 | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... |
| *c.* Jaw | 4 | 6 | ... | ... | ... | ... | 2 | 1 | 5 | 2 | ... | ... | ... | ... | 5 | ... | 5 | ... |
| *d.* Tonsil | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| *e.* Chest wall | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| *f.* Abdominal wall | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| *g.* Pelvic region | 3 | ... | ... | ... | ... | ... | 1 | 1 | ... | 1 | ... | ... | ... | ... | 1 | ... | 2 | ... |
| *h.* Upper extremity | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| *j.* Lower extremity | 5 | ... | ... | ... | ... | 2 | ... | 2 | ... | 1 | ... | ... | ... | 1 | 2 | 1 | 1 | ... |

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*Classes, according to authorised Nomenclature.*

| Duration of residence. | | | | | | | | | Result. | | | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dys. 1–4 | Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–12 | Above a year. | C. | R. | U. | D. | |
| 4 | 7 | 14 | 19 | 5 | 3 | 3 | ... | ... | 48 | ... | ... | 7 | See Special Summary. |
| 6 | 24 | 20 | 14 | 10 | 1 | 1 | ... | ... | 69 | 2 | ... | 5 | See Summary of Diseases. |
| ... | 1 | 1 | 3 | 1 | ... | 1 | ... | ... | 2 | 1 | ... | 4 | |
| 1 | 4 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 5 | See Special Table II. |
| ... | ... | 2 | 1 | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | |
| ... | 9 | 19 | 19 | 14 | 5 | ... | ... | ... | 52 | 14 | ... | ... | See Summary of Diseases. |
| ... | 3 | 4 | 1 | 1 | 1 | ... | ... | ... | 6 | 4 | ... | ... | |
| ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | Fatal: æt. 15 months. |
| ... | 1 | ... | 2 | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | Amputation of finger 1. |
| ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | |
| ... | 3 | 6 | 12 | 2 | ... | ... | ... | ... | 17 | 4 | 1 | 1 | See Summary of Diseases. |
| ... | 1 | 1 | 3 | 1 | ... | ... | ... | ... | 4 | 2 | ... | ... | |
| ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | Excision of cæcum. See 'Lancet,' Jan. 10, 1885. |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | Death: secondary growths liver and spleen. |
| ... | 3 | 4 | ... | ... | ... | ... | ... | ... | 3 | 3 | ... | 1 | |
| ... | 2 | 2 | 2 | ... | ... | ... | ... | ... | ... | 5 | ... | 1 | |
| 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | 1 | |
| ... | 4 | 3 | 1 | ... | ... | ... | ... | ... | 6 | 1 | ... | 1 | |
| ... | ... | 1 | 1 | 1 | ... | 1 | ... | ... | 2 | ... | ... | 2 | |
| ... | 1 | 1 | 1 | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | |
| ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | |
| 1 | ... | 1 | 2 | ... | ... | ... | ... | ... | ... | 2 | 1 | 1 | |
| ... | 1 | 4 | 2 | ... | ... | ... | ... | ... | 1 | 1 | ... | 5 | |
| ... | 1 | 2 | 4 | 1 | ... | ... | ... | ... | 4 | 2 | ... | 2 | |
| ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| 1 | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | |
| 1 | 2 | 4 | 3 | ... | ... | ... | ... | ... | 5 | 3 | 1 | 1 | Upper jaw 5. |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Melanotic. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | 1 | 1 | ... | 1 | ... | ... | ... | ... | 1 | 2 | ... | ... | |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Thumb. |
| ... | 2 | 1 | 1 | 1 | ... | ... | ... | ... | 2 | 1 | ... | 2 | Femur 3, tibia 2. |

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## Table I.—*Abstract, showing Diseases, Injuries, &c., in*

| DISEASE. | Sex. | | Age. | | | | | | | | Duration before admission. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | Under 5 | 5–10 | –20 | –30 | –40 | –50 | –60 | Above 60 | Dys. 1–4 | Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–6 | Mts. 6–12 | Chronic | Not reported. |
| **Local Diseases.** | | | | | | | | | | | | | | | | | | |
| **Tumours.** | | | | | | | | | | | | | | | | | | |
| *Sarcoma—continued.* | | | | | | | | | | | | | | | | | | |
| *k.* Breast | ... | 4 | ... | ... | ... | ... | 1 | 2 | ... | 1 | ... | ... | 1 | 2 | ... | ... | 1 | ... |
| *l.* Testis | 4 | ... | ... | ... | ... | 1 | 2 | ... | 1 | ... | ... | ... | ... | ... | 1 | 1 | 2 | ... |
| *m.* Lymphatic glands | 2 | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | 2 | ... | ... | ... |
| Myxoma | 1 | 2 | ... | 1 | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | 2 | ... |
| Lipoma | 3 | 10 | ... | ... | 2 | 3 | 2 | 3 | ... | 3 | ... | ... | ... | ... | ... | ... | 13 | ... |
| Neuromata | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Myo-fibroma | ... | 7 | ... | ... | ... | 2 | 1 | 3 | 1 | ... | ... | ... | ... | ... | 2 | 2 | 3 | ... |
| Enchondroma | 1 | 2 | ... | ... | ... | 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 3 | ... |
| Exostosis | 5 | 1 | ... | ... | 5 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | 3 | ... |
| Adenoma | ... | 5 | ... | ... | 1 | 4 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 3 | ... |
| Papilloma | 2 | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... |
| Keloid | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Nævus | 8 | 1 | 8 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 9 | ... |
| Rodent ulcer | 2 | 3 | ... | ... | ... | ... | ... | 2 | 2 | 1 | ... | ... | ... | ... | ... | ... | 5 | ... |
| Lupus | 5 | 11 | 1 | 1 | 12 | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 2 | 14 | ... |
| Ovarian (chiefly cystic) | ... | 15 | ... | ... | ... | 2 | 6 | 4 | 2 | 1 | ... | ... | ... | 1 | 3 | 3 | 8 | ... |
| Cysts— | | | | | | | | | | | | | | | | | | |
| *a.* Sebaceous | 2 | 2 | ... | ... | ... | 1 | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 4 | ... |
| *b.* Dermoid | 2 | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... |
| *c.* Mucous | ... | 2 | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... |
| *d.* Of breasts | ... | 3 | ... | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | ... | ... | 2 | ... | 1 | ... |
| *e.* Other cysts | 2 | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... |
| **Nervous System.** | | | | | | | | | | | | | | | | | | |
| Tetanus | 2 | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... |
| Cerebral abscess | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| Infantile paralysis | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| Spasmodic action of muscle of forearm | ... | 2 | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... |
| Anæsthesia of hand (partial) | ... | 2 | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... |
| **Circulatory System.** | | | | | | | | | | | | | | | | | | |
| Aneurism | 4 | 2 | ... | ... | 1 | 1 | 3 | ... | ... | 1 | ... | 1 | ... | 1 | 1 | ... | 3 | ... |
| Varicose veins | 6 | 1 | ... | ... | ... | 3 | ... | 4 | ... | ... | ... | ... | ... | ... | ... | 1 | 6 | ... |
| Phlebitis | 1 | 3 | ... | ... | ... | 2 | 2 | ... | ... | ... | 1 | 3 | ... | ... | ... | ... | ... | ... |
| Thrombosis | ... | 3 | ... | ... | ... | 1 | 1 | 1 | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | ... |
| Hæmorrhage | 10 | 3 | 1 | ... | 3 | 1 | 5 | 2 | 1 | ... | 10 | ... | 2 | 1 | ... | ... | ... | ... |
| Gangrene | 1 | 2 | ... | ... | 1 | ... | ... | 1 | ... | 1 | 1 | 2 | ... | ... | ... | ... | ... | ... |
| Œdema of leg | 2 | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 1 | ... |

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*Classes, according to authorised Nomenclature*—continued.

| Duration of residence. | | | | | | | | | Result. | | | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ys. 1–4 | Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–12 | Above a year. | C. | R. | U. | D. | |
| ... | 1 | 1 | 1 | 1 | ... | ... | ... | ... | 2 | 1 | ... | 1 | |
| ... | ... | 2 | 2 | ... | ... | ... | ... | ... | 4 | ... | ... | ... | |
| ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | Cervical 1, inguinal 1. |
| ... | 2 | 1 | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | 1 | Fatal: meningitis, polypus. |
| 1 | 2 | 8 | 1 | 1 | ... | ... | ... | ... | 11 | 1 | 1 | ... | Shoulder 4, neck 1, side 2, back 5, forehead 1. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | 4 | 2 | 1 | ... | ... | ... | ... | ... | 2 | 3 | ... | 2 | 1 peritonitis, 1 shock. |
| ... | 1 | 2 | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | Chiefly myxo-enchondroma. |
| ... | 2 | ... | 3 | ... | 1 | ... | ... | ... | 5 | 1 | ... | ... | Femur 3, ulna 1, subungual 2. |
| ... | ... | 4 | ... | 1 | ... | ... | ... | ... | 5 | ... | ... | ... | Left breast 4. Erysipelas 1. |
| ... | ... | 2 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | Abdominal wall 1, anus 1. |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | False. |
| 1 | 3 | 1 | 4 | ... | ... | ... | ... | ... | 8 | 1 | ... | ... | Face 5, chest 1, back 1, forehead 1, labium 1. Electrolysis 5; excision 4 |
| ... | 1 | 1 | 2 | 1 | ... | ... | ... | ... | 2 | 3 | ... | ... | Excision 4, caustics 1. |
| 1 | 4 | 4 | 6 | 1 | ... | ... | ... | ... | 12 | 4 | ... | ... | Face 12, hand 1, thigh 2. |
| 2 | 5 | ... | 5 | 3 | ... | ... | ... | ... | 6 | 3 | 1 | 5 | See Special Summary. |
| 1 | 2 | 1 | ... | ... | ... | ... | ... | ... | 4 | ... | ... | ... | Face 2, scalp 1, forehead 1. |
| ... | 2 | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | Neck 1, eyebrow 1. |
| ... | 1 | ... | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | Lip, labium major. |
| ... | ... | 3 | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | Operation 3. |
| ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | Sanguineous of abdomen 1, in connection with gland 1. |
| 1 | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | Contusion and whitlow of hand 1, wound of thumb 1. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Exact diagnosis impossible. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | Cause and pathology not known. Readmission. |
| ... | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | Readmission, wound of nerve; resection of median. |
| ... | 2 | 3 | 1 | ... | ... | ... | ... | ... | 3 | 3 | ... | ... | See Summary of Diseases. |
| 2 | 1 | 2 | 2 | ... | ... | ... | ... | ... | 4 | 2 | 1 | ... | Operation 4. |
| 1 | ... | 2 | 1 | ... | ... | ... | ... | ... | 4 | ... | ... | ... | Femoral 1, internal saphena 3. |
| ... | 1 | 1 | 1 | ... | ... | ... | ... | ... | 3 | ... | ... | ... | V. femoral 1, internal saphena 1, labium major 1. |
| 4 | 6 | 3 | ... | ... | ... | ... | ... | ... | 13 | ... | ... | ... | Epistaxis 4, ruptured vein 4, ulcer of palate 1, from rectum 1, ulnar artery 2, radial 1. |
| ... | ... | 2 | 1 | ... | ... | ... | ... | ... | 3 | ... | ... | ... | Hand, finger, foot. |
| 1 | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | Chronic with thickening of soft parts 1, ? inflammatory 1. |

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TABLE I.—*Abstract, showing Diseases, Injuries, &c., in*

| DISEASE. | Sex. | | Age. | | | | | | | | Duration before admission. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | Under 5 | 5–10 | 10–20 | 20–30 | 30–40 | 40–50 | 50–60 | Above 60 | Dys. 1–4 | Dys. 5–13 | Wks 2–4 | Mts 1–2 | Mts. 2–6 | Mts. 6–12 | Chronic. | Not reported. |
| **RESPIRATORY SYSTEM.** | | | | | | | | | | | | | | | | | | |
| Foreign body | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... |
| Œdema of larynx | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... |
| Laryngitis | ... | 2 | ... | ... | 2 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... |
| Ulceration | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| Necrosis of cartilage | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| **LYMPHATIC SYSTEM.** | | | | | | | | | | | | | | | | | | |
| Adenitis | 3 | 3 | 1 | 2 | 2 | ... | ... | ... | ... | 1 | 3 | 2 | ... | 1 | ... | ... | ... | ... |
| Abscess | 12 | 8 | 2 | 3 | 6 | 9 | ... | ... | ... | ... | 1 | 3 | 13 | 3 | ... | ... | ... | ... |
| Caseous degeneration | 4 | 6 | ... | ... | 6 | 2 | 1 | 1 | ... | ... | ... | ... | ... | ... | 2 | 1 | 7 | ... |
| Lymphangitis | 5 | 4 | ... | ... | 3 | 2 | 2 | 2 | ... | ... | 7 | 2 | ... | ... | ... | ... | ... | ... |
| Breasts— | | | | | | | | | | | | | | | | | | |
| Neuralgia | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Inflammation | ... | 2 | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... |
| Abscess | ... | 5 | ... | ... | ... | 2 | 1 | 1 | 1 | ... | ... | 1 | 1 | ... | 1 | 2 | ... | ... |
| **DISEASES OF DUCTLESS GLANDS.** | | | | | | | | | | | | | | | | | | |
| Thyroid | 3 | 5 | ... | ... | 2 | 4 | 1 | 1 | ... | ... | ... | ... | ... | ... | 2 | ... | 6 | ... |
| **DIGESTIVE SYSTEM.** | | | | | | | | | | | | | | | | | | |
| Congestion of fauces | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| Acute tonsillitis | 2 | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... |
| Hypertrophy of tonsil | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | .. | ... | ... | ... | ... | ... | ... | 1 | ... |
| Gangrenous stomatitis | ... | 3 | 2 | ... | ... | ... | 1 | ... | ... | ... | ... | 2 | ... | 1 | ... | ... | ... | ... |
| Glossitis | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... |
| Œsophageal stricture | 3 | ... | ... | ... | 1 | 1 | ... | ... | ... | 1 | ... | ... | ... | 1 | 1 | 1 | ... | ... |
| Foreign body | 2 | 1 | 2 | ... | 1 | ... | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | ... | ... | ... |
| Strangulated hernia— | | | | | | | | | | | | | | | | | | |
| Inguinal | 26 | 2 | 4 | ... | ... | 3 | 5 | 8 | 6 | 2 | 25 | 3 | ... | ... | ... | ... | ... | ... |
| Femoral | 2 | 13 | ... | ... | ... | ... | 2 | 5 | 3 | 5 | 8 | 7 | ... | ... | ... | ... | ... | ... |
| Umbilical | 1 | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... |
| Hernia— | | | | | | | | | | | | | | | | | | |
| Inguinal | 2 | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... |
| „ irreducible | 4 | ... | ... | ... | ... | 1 | ... | 1 | 1 | 1 | ... | 1 | ... | ... | ... | 1 | 2 | ... |
| Femoral, irreducible | .. | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... |
| „ obstructed | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... |
| Intestinal obstruction | 3 | 1 | 1 | ... | ... | ... | ... | ... | 3 | ... | 3 | 1 | ... | ... | ... | ... | ... | ... |
| Fæcal fistula | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| Gastric fistula | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| Hæmorrhoids | 6 | 5 | ... | ... | 1 | 3 | 1 | 4 | 2 | ... | ... | ... | 1 | ... | ... | ... | 10 | ... |

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*Classes, according to authorised Nomenclature*—continued.

| Duration of residence. | | | | | | | | | Result. | | | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dys. 1–4 | Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–12 | Above a year. | C. | R. | U. | D. | |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | Puff-dart. Death: pneumonia. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Tracheotomy. |
| 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ? Diphtheritic 1. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | Syphilis, tracheotomy. |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | Syphilis, tracheotomy; bronchitis. |
| ... | 5 | 1 | ... | ... | ... | ... | ... | ... | 6 | ... | ... | ... | Groin 2, neck 2, popliteal 1, iliac 1. |
| ... | 7 | 5 | 4 | 4 | ... | ... | ... | ... | 18 | 1 | ... | 1 | Axilla 5, groin 8, cervical 2, popliteal 3, thigh 1, leg 1. |
| ... | 3 | 6 | 1 | ... | ... | ... | ... | ... | 9 | 1 | ... | ... | Neck 7, axilla 2, over masseter 1. |
| 3 | 4 | 2 | ... | ... | ... | ... | ... | ... | 9 | ... | ... | ... | Arm 3, leg 6. |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | 1 | ... | 1 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | Amputation 1. |
| ... | 2 | 1 | 2 | ... | ... | ... | ... | ... | 3 | 1 | ... | 1 | Fatal: after incision; ? pyæmia. |
| ... | ... | 3 | 4 | 1 | ... | ... | ... | ... | 6 | 1 | ... | 1 | Fatal: after division of isthmus. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Excision. |
| 1 | 2 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 2 | Abortion 1, broncho-pneumonia 1. |
| 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | ... | ... | 2 | 1 | ... | ... | ... | ... | 1 | 2 | ... | ... | Gastrostomy 1. Fibrous 1, ? spasmodic 1, malignant 1. See also Epithelioma. |
| 2 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | Brooch, pin, halfpenny. |
| 10 | 6 | 8 | 4 | ... | ... | ... | ... | ... | 23 | ... | ... | 5 | See Special Table—Hernia. |
| 3 | 2 | 6 | 3 | 1 | ... | ... | ... | ... | 11 | ... | ... | 4 | |
| ... | 1 | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | |
| ... | ... | ... | 1 | 1 | ... | ... | ... | ... | 2 | ... | ... | ... | Radical cure 2, in 1 double operation. |
| 1 | 1 | 1 | ... | 1 | ... | ... | ... | ... | 2 | 2 | ... | ... | Suppuration in sac 1. |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| 3 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4 | Colotomy 1, abdominal section 3. |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | After operation for hernia; resection. |
| ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | After gastrostomy. |
| ... | 2 | 5 | 3 | 1 | ... | ... | ... | ... | 7 | 4 | ... | ... | Operation 7. |

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TABLE I.—*Abstract, showing Diseases, Injuries, &c., in*

| DISEASE. | Sex. | | Age. | | | | | | | | Duration before admission. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | Under 5 | 5–10 | –20 | –30 | –40 | –50 | –60 | Above 60 | Dys. 1–4 | Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–6 | Mts. 6–12 | Chronic. | Not reported. |
| DIGESTIVE SYSTEM — *continued.* | | | | | | | | | | | | | | | | | | |
| Ulceration of rectum | 3 | 1 | ... | ... | ... | 2 | 1 | ... | ... | 1 | ... | ... | 1 | ... | 1 | ... | 2 | ... |
| Stricture of rectum | 6 | 6 | 1 | ... | ... | 2 | 2 | 2 | 4 | 1 | ... | ... | ... | 1 | 3 | 2 | 6 | ... |
| Pruritus ani | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Fissure of anus | 1 | 2 | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | ... |
| Fistula in ano | 16 | 5 | 1 | ... | 2 | 5 | 3 | 7 | 2 | 1 | ... | 1 | ... | 4 | 8 | ... | 8 | ... |
| GENITO-URINARY SYSTEM. | | | | | | | | | | | | | | | | | | |
| Phimosis | 11 | ... | 3 | 1 | 6 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | 10 | ... |
| Paraphimosis | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... |
| Epididymitis | 2 | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... |
| Varicocele | 12 | ... | ... | ... | 6 | 5 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 12 | ... |
| Hydrocele | 6 | ... | ... | ... | 1 | 1 | 3 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 6 | ... |
| Syphilitic testis | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Incontinence of urine | 3 | ... | ... | ... | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | 1 | ... |
| Retention of urine | 23 | ... | 2 | ... | 1 | 6 | 5 | 2 | 3 | 4 | 23 | ... | ... | ... | ... | ... | ... | ... |
| Stricture of urethra | 33 | ... | ... | ... | 1 | 5 | 12 | 9 | 3 | 3 | ... | ... | ... | 1 | 3 | 4 | 25 | ... |
| Extravasation of urine | 8 | ... | ... | ... | ... | 1 | 1 | 2 | 2 | 2 | 6 | 2 | ... | ... | ... | ... | ... | ... |
| Urinary abscess | 3 | ... | ... | ... | ... | 2 | ... | 1 | ... | ... | 1 | 2 | ... | ... | ... | ... | ... | ... |
| Urinary fistula | 10 | ... | ... | ... | 2 | 1 | ... | 4 | 2 | 1 | ... | 1 | 1 | ... | 3 | ... | 5 | ... |
| Vesico-vaginal fistula | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| Prostatic enlargement | 5 | ... | ... | ... | ... | ... | 1 | ... | 2 | 2 | ... | ... | ... | ... | ... | ... | 5 | ... |
| Prostatic abscess | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Atony of bladder | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Cystitis | 2 | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... |
| Tumour of bladder | 2 | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 2 | ... |
| Calculus urethræ | 4 | ... | 2 | 1 | ... | ... | ... | ... | ... | 1 | 3 | 1 | ... | ... | ... | ... | ... | ... |
| Calculus vesicæ | 12 | ... | ... | 3 | 1 | 1 | ... | 1 | 1 | 5 | ... | ... | ... | 3 | 4 | ... | 5 | ... |
| Hydronephrosis | 2 | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... |
| Vascular growth of meatus urinarius | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| OTHER AFFECTIONS OF THE GENERATIVE ORGANS. | | | | | | | | | | | | | | | | | | |
| Gonorrhœa | ... | 48 | ... | ... | 27 | 18 | 2 | 1 | ... | ... | 2 | 6 | 20 | 7 | 8 | 1 | 4 | ... |
| Soft sore | 12 | 32 | 1 | ... | 25 | 15 | 2 | 1 | ... | ... | ... | 16 | 20 | 3 | 2 | ... | ... | 1 |
| DISEASES OF THE BONES. | | | | | | | | | | | | | | | | | | |
| Periostitis, acute— | | | | | | | | | | | | | | | | | | |
| Humerus | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| Os innominatum | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| Femur | 3 | ... | ... | 1 | 1 | 1 | ... | ... | ... | ... | 2 | ... | 1 | ... | ... | ... | ... | ... |

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*Classes, according to authorised Nomenclature*—continued.

| Duration of residence. | | | | | | | | | Result. | | | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dys. 1–4 | Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–12 | Above a year. | C. | R. | U. | D. | |
| 1 | 2 | 1 | ... | ... | ... | ... | ... | ... | 1 | 3 | ... | ... | Simple 1, syphilitic 2, malignant 1. |
| 1 | 4 | 4 | 1 | 2 | ... | ... | ... | ... | 3 | 7 | ... | 2 | Malignant 6, syphilitic 3, simple 2, inflammation of connective tissue round rectum 1; colotomy 3. |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | 2 | 1 | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | |
| 1 | 6 | 11 | 3 | ... | ... | ... | ... | ... | 18 | 3 | ... | ... | See General Summary. |
| 1 | 7 | 3 | ... | ... | ... | ... | ... | ... | 11 | ... | ... | ... | Circumcision 11. |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | 1 | 1 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | Gonorrhœal. |
| ... | 2 | 9 | 1 | ... | ... | ... | ... | ... | 12 | ... | ... | ... | Excision of veins 7, catgut ligature 2, harelip pins and division 2. |
| ... | 1 | 3 | 2 | ... | ... | ... | ... | ... | 6 | ... | ... | ... | See General Summary. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | Both testes affected. |
| ... | 2 | 1 | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | 1 also tubercular epididymitis. |
| 2 | 5 | 7 | 8 | ... | 1 | ... | ... | ... | 18 | 2 | ... | 3 | See General Summary. |
| 1 | 5 | 11 | 11 | 5 | ... | .. | ... | ... | 24 | 6 | ... | 3 | Ditto. |
| 2 | 1 | 1 | 3 | 1 | ... | ... | ... | ... | 2 | 1 | ... | 5 | Ditto. |
| ... | ... | 2 | 1 | ... | ... | ... | ... | ... | 3 | ... | ... | ... | Gonorrhœa 1, stricture 2. |
| ... | ... | 1 | 5 | 3 | 1 | ... | ... | ... | 7 | 2 | ... | 1 | Fatal: cystitis, enlarged prostate, peritonitis. |
| ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | Albuminuria, cystitis, erysipelas; no operation. |
| ... | 2 | 3 | ... | ... | ... | ... | ... | ... | ... | 3 | ... | 2 | Fatal: dilated bladder, atony, cystitis, and renal disease. |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | 2 | ... | ... | Renal disease 1, epididymitis 1. |
| ... | ... | ... | 2 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | Villous; removed. |
| ... | ... | 3 | ... | ... | 1 | ... | ... | ... | 4 | ... | ... | ... | |
| ... | 1 | 3 | 5 | 3 | ... | ... | ... | ... | 11 | 1 | ... | ... | Lithotomy 4, lithotrity 7, no operation 1. |
| ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | 2 | ... | ... | |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| 1 | 7 | 20 | 13 | 6 | 1 | ... | ... | ... | 38 | 10 | ... | ... | See Special Summary. |
| ... | 11 | 9 | 14 | 8 | ... | ... | ... | ... | 36 | 8 | ... | ... | |
| ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | Two attacks of erysipelas. |
| ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | Abscess, erysipelas. |
| ... | ... | ... | 3 | ... | ... | ... | ... | ... | 3 | ... | ... | ... | |

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TABLE I.—*Abstract, showing Diseases, Injuries, &c., in*

| DISEASE. | Sex. | | Age. | | | | | | | | Duration before admission. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | Under 5 | 5–10 | 10–20 | 20–30 | 30–40 | 40–50 | 50–60 | Above 60 | Dys. 1–4 | Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–6 | Mts. 6–12 | Chronic. | Not re-corded. |
| **DISEASES OF THE BONES—*continued.*** | | | | | | | | | | | | | | | | | | |
| Periostitis, acute— | | | | | | | | | | | | | | | | | | |
| Tibia | 3 | 1 | ... | 4 | ... | ... | ... | ... | ... | ... | ... | 3 | 1 | ... | ... | ... | ... | ... |
| Fibula | 2 | ... | ... | 2 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... |
| Os calcis | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... |
| Do., subacute or chronic— | | | | | | | | | | | | | | | | | | |
| Humerus | 2 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... |
| Femur | 1 | 2 | ... | ... | 2 | 1 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | 1 | ... |
| Tibia | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| Os calcis | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| Metatarsal | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... |
| Osteitis— | | | | | | | | | | | | | | | | | | |
| Femur | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| Tibia | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Tarsus | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| Necrosis— | | | | | | | | | | | | | | | | | | |
| Inferior maxilla | 2 | 2 | ... | ... | 1 | 2 | 1 | ... | ... | ... | ... | ... | 1 | ... | 2 | ... | 1 | ... |
| Humerus | 2 | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... |
| Ulna | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Radius | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Phalanges | 1 | 1 | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... |
| Rib | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Femur | 5 | 1 | ... | ... | 4 | ... | ... | ... | 2 | ... | ... | ... | 1 | ... | 1 | 2 | 2 | ... |
| Tibia | 11 | 1 | ... | 1 | 8 | 1 | 1 | ... | 1 | ... | ... | ... | ... | ... | 4 | 3 | 5 | ... |
| Os calcis | 3 | 2 | 1 | 1 | ... | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | 2 | 3 | ... | ... |
| Caries— | | | | | | | | | | | | | | | | | | |
| Scapula | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| Sternum | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| Phalanges | 1 | 1 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... |
| Pelvic bones | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| Femur | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Tarsal bones | 3 | ... | 1 | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | ... |
| Phalanges of toes | 2 | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... |
| **DISEASES OF JOINTS.** | | | | | | | | | | | | | | | | | | |
| Temporo-maxillary | 1 | 1 | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... |
| Shoulder— | | | | | | | | | | | | | | | | | | |
| Incipient | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| Chronic | 2 | 2 | ... | ... | 1 | 1 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 3 | ... |
| Elbow— | | | | | | | | | | | | | | | | | | |
| Chronic | 6 | 7 | 3 | 2 | 1 | 3 | 1 | ... | 2 | 1 | ... | ... | ... | ... | 1 | 1 | 11 | ... |
| Anchylosis | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| Wrist | 3 | 2 | ... | ... | 1 | 3 | ... | 1 | ... | ... | ... | ... | ... | ... | 2 | ... | 3 | ... |

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*Classes, according to authorised Nomenclature*—continued.

| Duration of residence. | | | | | | | | | Result. | | | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dys. 1–4 | Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–12 | Above a year. | C. | R. | U. | D. | |
| ... | ... | ... | 2 | 2 | ... | ... | ... | ... | 4 | ... | ... | ... | Sequestrotomy 2; femur also 1. |
| ... | ... | ... | 1 | 1 | ... | ... | ... | ... | 2 | ... | ... | ... | |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | |
| ... | ... | 2 | 1 | ... | ... | ... | ... | ... | 2 | 1 | ... | ... | Congenital syphilis 1. |
| 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | Traumatic. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Strumous. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | Syphilitic. |
| ... | 4 | ... | ... | ... | ... | ... | ... | ... | 2 | 2 | ... | ... | Sequestrotomy 1. |
| ... | ... | 1 | ... | 1 | ... | ... | ... | ... | 2 | ... | ... | ... | Sequestrotomy 2; erysipelas 1. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Sequestrotomy; disease of wrist. |
| 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | Amputation 1; toe 1, finger 1. |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | Erysipelas. |
| 1 | 1 | ... | 2 | ... | ... | 2 | ... | ... | 5 | 1 | ... | ... | Sequestrotomy 4; afterwards amputation 1. |
| ... | ... | 2 | 5 | 5 | ... | ... | ... | ... | 11 | 1 | ... | ... | Sequestrotomy 11; erysipelas 3. |
| ... | ... | 1 | 2 | 1 | 1 | ... | ... | ... | 5 | ... | ... | ... | Sequestrotomy 4; afterwards amputation thigh 1; erysipelas 3, pyæmia 1. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | Struma. |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | |
| ... | ... | ... | 1 | 1 | ... | ... | 1 | ... | 2 | ... | ... | 1 | Fatal: from diphtheria. |
| ... | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | Amputation 1. |
| ... | 1 | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | 1 | Fatal: from suppurative meningitis. |
| ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | Excision. |
| ... | 1 | 1 | 1 | ... | 1 | ... | ... | .. | 2 | 2 | ... | ... | Excision 1. |
| ... | 2 | ... | 8 | 2 | 1 | ... | ... | ... | 8 | 5 | ... | ... | Excision 4, amputation 1. |
| 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | ... | 3 | 1 | ... | 1 | ... | ... | ... | 2 | 3 | ... | ... | Excision 1, amputation 1. |



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TABLE I.—*Abstract, showing Diseases, Injuries, &c., in*

| DISEASE. | Sex. | | Age. | | | | | | | | Duration before admission. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | Under 5 | 5–10 | –20 | –30 | –40 | –50 | –60 | Above 60 | Dys. 1–4 | Dys 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–6 | Mts. 6–12 | Chronic. Not re. |
| **DISEASES OF JOINTS—*continued.*** | | | | | | | | | | | | | | | | | |
| Metacarpo-phalangeal | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| Sacro-iliac | ... | 2 | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | 1 |
| Hip— | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Incipient | 5 | 5 | 2 | 4 | 4 | ... | ... | ... | ... | ... | 1 | 2 | 2 | 1 | 4 | ... | ... |
| Chronic | 14 | 13 | 4 | 9 | 9 | 5 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4 | 23 |
| Rheumatism | 3 | 3 | ... | 2 | 1 | 2 | ... | ... | ... | 1 | 2 | 1 | ... | ... | 1 | ... | 2 |
| Old excision | 2 | 2 | ... | 4 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 3 |
| Hysterical | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| Knee— | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Incipient | 3 | 3 | 1 | 2 | 1 | ... | 2 | ... | ... | ... | 1 | 1 | 2 | 2 | ... | ... | ... |
| Chronic | 22 | 21 | 5 | 11 | 6 | 13 | 4 | 3 | 1 | ... | ... | ... | 1 | 2 | 4 | 4 | 32 |
| Anchylosis | ... | 6 | ... | ... | 1 | 5 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 4 |
| Old excision | 3 | 4 | 2 | 2 | 2 | 1 | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | 1 | 4 |
| Rheumatoid | 3 | 3 | ... | ... | 2 | 1 | 1 | 1 | ... | 1 | ... | 1 | 3 | 2 | ... | ... | ... |
| Loose cartilage | 2 | 1 | ... | ... | ... | 2 | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 |
| Hysterical | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Ankle— | | | | | | | | | | | | | | | | | |
| Acute | 1 | 2 | ... | ... | 1 | 2 | ... | ... | ... | ... | ... | 1 | 1 | ... | 1 | ... | ... |
| Chronic | 4 | 2 | 3 | ... | 3 | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | 1 | 3 |
| Anchylosis | 3 | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Rheumatism | 2 | ... | ... | ... | ... | 2 | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... |
| Foot— | | | | | | | | | | | | | | | | | |
| Tarsal joints | 3 | ... | ... | 1 | 1 | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 | ... |
| Toe | 3 | ... | ... | ... | ... | 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | 2 |
| **DISEASES OF THE SPINE.** | | | | | | | | | | | | | | | | | |
| Pott's curvature | 10 | 18 | 3 | 4 | 6 | 8 | 4 | 3 | ... | ... | ... | ... | 1 | 3 | 3 | 6 | 15 |
| Lateral curvature | 1 | 2 | ... | ... | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2 |
| **DEFORMITIES.** | | | | | | | | | | | | | | | | | |
| Talipes— | | | | | | | | | | | | | | | | | |
| Equino-varus | 3 | 5 | 4 | 1 | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 8 |
| Equinus | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Valgus | 2 | 3 | ... | ... | 2 | 1 | 2 | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 3 |
| Hammer toe | 1 | 2 | ... | ... | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 |
| Torticollis | 3 | 1 | 1 | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4 |
| Genu valgum | 5 | 7 | 3 | 1 | 7 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 | 9 |
| Curved tibiæ | 1 | 1 | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 |
| Deformity— | | | | | | | | | | | | | | | | | |
| Congenital | 1 | 1 | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 |

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***Classes, according to authorised Nomenclature*—continued.**

| Duration of residence. | | | | | | | | Result. | | | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–12 | Above a year. | C. | R. | U. | D. | |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | See General Summary. |
| 1 | 1 | 6 | 1 | 1 | ... | ... | ... | 9 | 1 | ... | ... | |
| 1 | 3 | 7 | 4 | 2 | 2 | 1 | 4 | 8 | 14 | ... | 5 | |
| 3 | 1 | 1 | 1 | ... | ... | ... | .. | 5 | 1 | ... | ... | |
| 1 | ... | 2 | ... | ... | 1 | ... | ... | 1 | 3 | ... | ... | With sinuses. |
| 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | See General Summary. |
| 2 | 3 | 1 | ... | ... | ... | ... | ... | 3 | 3 | ... | ... | |
| 5 | 4 | 16 | 6 | 6 | 4 | 1 | ... | 23 | 20 | ... | ... | |
| 1 | 1 | 3 | ... | ... | ... | ... | ... | ... | 5 | 1 | ... | |
| 1 | 3 | 2 | 1 | ... | ... | ... | ... | 5 | 2 | ... | ... | |
| 2 | 2 | 2 | ... | ... | ... | ... | ... | 6 | ... | ... | ... | |
| 2 | ... | ... | 1 | ... | ... | ... | ... | ... | 3 | ... | ... | |
| 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| 1 | ... | ... | 1 | ... | ... | ... | ... | 3 | ... | ... | ... | Amputation 1. |
| 1 | 3 | 1 | 1 | . . | ... | ... | ... | 2 | 4 | ... | ... | Amputation 2. |
| 1 | 1 | ... | ... | ... | ... | ... | ... | 2 | ... | 1 | ... | |
| ... | 1 | ... | 1 | ... | ... | ... | ... | 2 | ... | ... | ... | Gonorrhœal. |
| 1 | ... | ... | 2 | ... | ... | ... | ... | 3 | ... | ... | ... | Rheumatism 1, chronic 2; amputation 2. |
| ... | 1 | 1 | 1 | ... | ... | ... | ... | 2 | 1 | ... | ... | Amputation 1, excision 2. |
| 4 | 9 | 8 | 5 | ... | 2 | ... | ... | 6 | 19 | ... | 3 | Cervical 5, dorsal 17, dorsi-lumbar 3, lumbar 3. Abscess: psoas 7, gluteal 3, lumbar 1, groin 1. Sinuses 3. Fatal: epilepsy, tubercle, hectic. |
| ... | 2 | 1 | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | |
| 2 | 1 | 2 | 3 | ... | ... | ... | ... | 5 | 3 | ... | ... | Right 2, left 2, double 4. |
| ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | Left. |
| 2 | 2 | 1 | ... | ... | ... | ... | ... | 2 | 3 | ... | ... | Right 1, left 1, double 3. |
| 1 | 1 | ... | 1 | ... | ... | ... | ... | 3 | ... | ... | ... | Tenotomy 1, excision 2; amputation 2, one after excision. |
| 1 | 3 | ... | ... | ... | ... | ... | ... | 1 | 3 | ... | ... | Myotomy 2, tenotomy 1. |
| 1 | 2 | 5 | 2 | 1 | ... | ... | ... | 7 | 3 | 2 | ... | Operation 7, refused treatment 2. |
| ... | 1 | ... | 1 | ... | ... | ... | ... | 1 | 1 | ... | ... | Double osteotomy 1. |
| ... | ... | 1 | 1 | ... | ... | ... | ... | 1 | 1 | ... | ... | Leg, palate. |

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TABLE I.—*Abstract, showing Diseases, Injuries, &c., in*

| DISEASE. | Sex. | | Age. | | | | | | | Duration before admission. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | Under 5 | 5–10 | –20 | –30 | –40 | –50 | –60 | Above 60 | Dys. 1–4 | Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 3–6 | Mts. 6–12 | Chronic. |
| **DEFORMITIES—*continued.*** | | | | | | | | | | | | | | | | | |
| Deformity— | | | | | | | | | | | | | | | | | |
| Acquired— | | | | | | | | | | | | | | | | | |
| *a.* Nose | 1 | 2 | ... | ... | 1 | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | 3 |
| *b.* Of toes | 1 | 1 | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... |
| *c.* After injury | 3 | 1 | ... | ... | 2 | 1 | ... | ... | ... | 1 | ... | ... | ... | 1 | 1 | ... | 2 |
| *d.* Burn | ... | 2 | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 |
| *e.* Chest | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| *f.* Contracted hamstrings | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 |
| **MALFORMATIONS.** | | | | | | | | | | | | | | | | | |
| Spina bifida | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Harelip | 12 | 9 | 21 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 21 |
| Cleft palate | 7 | 12 | 1 | 8 | 7 | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 19 |
| Retained testis | 3 | ... | ... | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 |
| Atresia of vagina | ... | 2 | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 |
| Patent urachus | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Of rectum | 2 | 1 | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 |
| **APPENDAGES TO MUSCULAR SYSTEM.** | | | | | | | | | | | | | | | | | |
| Thecal suppuration | 3 | 1 | ... | ... | 1 | 1 | 1 | 1 | ... | ... | ... | 1 | 3 | ... | ... | ... | ... |
| Ganglion | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| Bursæ— | | | | | | | | | | | | | | | | | |
| 1. Inflammation— | | | | | | | | | | | | | | | | | |
| Prepatellaris | ... | 4 | ... | ... | 2 | 1 | ... | 1 | ... | ... | 1 | 2 | 1 | ... | ... | ... | ... |
| 2. Suppuration— | | | | | | | | | | | | | | | | | |
| Prepatellaris | 2 | 15 | ... | ... | 7 | 9 | 1 | ... | ... | ... | 8 | 2 | 4 | 1 | 2 | ... | ... |
| 3. Enlargement— | | | | | | | | | | | | | | | | | |
| Prepatellaris | 1 | 5 | ... | ... | 1 | 2 | 1 | 2 | ... | ... | ... | ... | 2 | ... | ... | ... | 4 |
| Popliteal | ... | 2 | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... |
| Over knee | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 |
| **CELLULAR TISSUE.** | | | | | | | | | | | | | | | | | |
| Sinus | 7 | 5 | 1 | 2 | 4 | 4 | ... | 1 | ... | ... | ... | ... | 2 | 1 | 2 | 3 | 4 |
| Abscess— | | | | | | | | | | | | | | | | | |
| Face and neck | 5 | 5 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | ... | ... | 3 | 6 | ... | ... | 1 | ... |
| Upper extremity | 5 | 1 | ... | ... | 3 | 1 | ... | 2 | ... | ... | 2 | 2 | 1 | 1 | ... | ... | ... |
| Axilla | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... |

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*Classes, according to authorised Nomenclature*—continued.

| Duration of residence. | | | | | | | | Result. | | | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–12 | Above a year. | C. | R. | U. | D. | |
| 1 | 1 | ... | 1 | ... | ... | ... | ... | 1 | 2 | ... | ... | Syphilitic 2, fracture 1. |
| 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | |
| ... | 1 | 2 | ... | ... | ... | ... | ... | 2 | 2 | ... | ... | After fracture 3: leg, arm, lower jaw. Wound: finger. |
| ... | ... | 1 | ... | 1 | ... | ... | ... | 1 | 1 | ... | ... | Neck: contracted cicatrices. |
| 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | Paraplegia. |
| ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Injection. |
| 11 | 6 | 2 | ... | ... | ... | ... | ... | 12 | 7 | 1 | 1 | With cleft palate 20. Fatal: after removal of intermaxillary bone. |
| 5 | 9 | 3 | 2 | ... | ... | ... | ... | 10 | 4 | 5 | ... | 13 operations; in 2 second operations required. |
| ... | 1 | 2 | ... | ... | ... | ... | ... | 2 | ... | 1 | ... | 1 relieved, afterwards readmitted; castration 2. |
| ... | ... | ... | 2 | ... | ... | ... | ... | ... | 1 | ... | 1 | Oophrectomy cured. Fatal case from hectic. |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | |
| 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 2 | 1 communication with vagina; 3 operations; 1 afterwards Littré's operation. |
| 1 | 2 | 1 | ... | ... | ... | ... | ... | 3 | 1 | ... | ... | |
| ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | Compound of both wrists. |
| 3 | 1 | ... | ... | ... | ... | ... | ... | 4 | ... | ... | ... | |
| 2 | 11 | 4 | ... | ... | ... | ... | ... | 17 | ... | ... | ... | |
| ... | 1 | 4 | ... | ... | ... | ... | ... | 6 | ... | ... | ... | |
| ... | 2 | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | 1 readmitted with suppuration of knee. |
| ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Outer condyle of femur. |
| 6 | 3 | 1 | ... | 1 | ... | 1 | ... | 6 | 5 | 1 | ... | Erysipelas 1. |
| 3 | 4 | 1 | 1 | ... | ... | ... | ... | 9 | 1 | ... | ... | Scalp 2, face 1, forehead 1, neck 6. |
| 3 | 1 | 1 | 1 | ... | ... | ... | ... | 6 | ... | ... | ... | Shoulder 1, arm 3, hand 2. |
| ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |

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TABLE I.—*Abstract, showing Diseases, Injuries, &c., in*

| DISEASE. | Sex. | | Age. | | | | | | | | Duration before admission. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | Under 5 | 5–10 | –20 | –30 | –40 | –50 | –60 | Above 60 | Dys. 1–4 | Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–6 | Mts. 6–12 | Chronic. |
| **CELLULAR TISSUE.** | | | | | | | | | | | | | | | | | |
| **Abscess (*continued*)—** | | | | | | | | | | | | | | | | | |
| Chest wall | 1 | 3 | 1 | ... | 1 | ... | ... | 2 | ... | ... | ... | ... | 2 | 1 | 1 | ... | ... |
| Back | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| Abdomen | 4 | 7 | 2 | ... | 2 | 2 | 3 | 1 | 1 | ... | ... | ... | 3 | 3 | 2 | 1 | 2 |
| Ischio-rectal | 3 | 3 | ... | ... | 2 | ... | 1 | 1 | 1 | 1 | ... | ... | 4 | 2 | ... | ... | ... |
| Of labium | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... |
| Gluteal | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Hip | 3 | 1 | 2 | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | 2 | ... | 1 | 1 | ... |
| Thigh | 5 | 4 | 3 | 2 | 1 | 2 | ... | ... | 1 | ... | 1 | 1 | 3 | 2 | 2 | ... | ... |
| Leg | 6 | 1 | 1 | 1 | 2 | 1 | ... | 2 | ... | ... | 2 | 3 | 2 | ... | ... | ... | ... |
| Foot | 2 | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... |
| **Cellulitis—** | | | | | | | | | | | | | | | | | |
| Face and neck | 4 | 1 | ... | 1 | 2 | ... | ... | ... | 1 | 1 | 4 | 1 | ... | ... | ... | ... | ... |
| Upper extremity | 7 | 3 | ... | ... | 2 | 2 | 4 | 2 | ... | ... | 1 | 7 | 1 | 1 | ... | ... | ... |
| Lower extremity | 5 | 1 | 1 | ... | 1 | 2 | 2 | ... | ... | ... | 4 | 1 | 1 | ... | ... | ... | ... |
| Penis | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... |
| Carbuncle | 2 | 3 | ... | ... | ... | ... | 1 | 1 | 1 | 2 | ... | 2 | ... | 3 | ... | ... | ... |
| Bunion | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Ingrowing toe-nail | 1 | 2 | ... | ... | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2 |
| Conical stump | 3 | 1 | ... | 1 | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 2 |
| **Ulcer—** | | | | | | | | | | | | | | | | | |
| Mouth | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| Shoulder | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| Arm | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| Gluteal region | ... | 2 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... |
| Bedsores | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| Groin | ... | 2 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... |
| Thigh | 1 | 2 | ... | ... | ... | 2 | ... | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | 1 |
| Leg | 19 | 9 | ... | ... | 2 | 10 | 6 | 6 | 4 | ... | ... | 1 | 1 | 5 | 4 | 4 | 13 |
| Foot | 6 | 3 | ... | ... | 1 | 1 | 3 | 1 | 3 | ... | ... | ... | ... | ... | 1 | 1 | 7 |
| Erythema | ... | 2 | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... |
| Eczema | 2 | 4 | 1 | ... | 2 | 1 | ... | ... | ... | 2 | ... | ... | 1 | 3 | ... | 1 | 1 |
| Noma | 1 | 1 | 2 | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... |
| Ecthyma | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| Hyperæsthesia of cicatrix | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... |

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*Classes, according to authorised Nomenclature*—continued.

| Duration of residence. | | | | | | | | | Result. | | | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dys. 1–4 | Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–12 | Above a year. | C. | R. | U. | D. | |
| ... | 1 | 2 | 1 | ... | ... | ... | ... | ... | 3 | 1 | ... | ... | |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | ... | 1 | 6 | 2 | 2 | ... | ... | ... | 9 | 2 | ... | ... | Iliac 5, lumbar 3, hernial sac 1, parametritis 1, abdominal wall 1. |
| ... | 3 | 1 | 1 | 1 | ... | ... | ... | ... | 4 | 1 | ... | 1 | Fatal: erysipelas. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | Exploratory operation. |
| ... | ... | 2 | 1 | ... | 1 | ... | ... | ... | 4 | ... | ... | ... | Varicella 1. |
| ... | 2 | 3 | 2 | 2 | ... | ... | ... | ... | 7 | 2 | ... | ... | |
| ... | ... | 5 | 2 | ... | ... | ... | ... | ... | 7 | ... | ... | ... | |
| ... | ... | 2 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | |
| ... | 3 | 2 | ... | ... | ... | ... | ... | ... | 5 | ... | ... | ... | 1 of chest. |
| 2 | 2 | 3 | 2 | 1 | ... | ... | ... | ... | 8 | 2 | ... | ... | |
| ... | 2 | 4 | ... | ... | ... | ... | ... | ... | 6 | ... | ... | ... | |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | Pyæmia. |
| 1 | ... | 1 | 3 | ... | ... | ... | ... | ... | 4 | ... | ... | 1 | Neck 3, shoulder 2. Fatal: diabetes. |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| 2 | 1 | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | |
| ... | ... | 2 | ... | 2 | ... | ... | ... | ... | 4 | ... | ... | ... | Reamputation 3, removal of bone 1. |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ? Syphilitic. |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | After scald. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | After scarlet fever. |
| ... | ... | 2 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | Measles, convulsions. |
| ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | Sacrum and trochanters after typhoid. |
| ... | ... | ... | 1 | 1 | ... | ... | ... | ... | 1 | 1 | ... | ... | Measles 1. |
| ... | ... | 1 | 1 | 1 | ... | ... | ... | ... | 3 | ... | ... | ... | Syphilis 2, cellulitis 1, erysipelas 1. |
| ... | 4 | 6 | 13 | 4 | 1 | ... | ... | ... | 26 | 1 | ... | 1 | Right 10, left 13, both 5. Fatal: ulceration after cellulitis. |
| ... | 2 | 2 | 2 | 3 | ... | ... | ... | ... | 6 | 2 | ... | 1 | Perforating 7. Fatal: albuminuria. |
| ... | 1 | ... | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | Nodosum. |
| ... | 1 | 5 | ... | ... | ... | ... | ... | ... | 6 | ... | ... | ... | Nipple 1, leg 1, scalp 2, groin 1, umbilicus 1. |
| 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | Mouth. |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Dog-bite. |

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## Table II.—

| Injuries | Sex. M. | Sex. F. | Age. Under 5 | 5–10 | 10–20 | 20–30 | 30–40 | 40–50 | 50–60 | Above 60 | Duration before admission. Under 1 hour. | Hrs. 1–6 | Hrs. 7–12 | Hrs. 13–24 | Dys. 1–3 | Dys. 3–5 | Above 5 days |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **General Injuries.** | | | | | | | | | | | | | | | | | |
| Burns | 17 | 23 | 15 | 4 | 4 | 2 | 7 | 2 | 3 | 3 | 6 | 23 | ... | 5 | 2 | 1 | 3 |
| Scalds | 29 | 17 | 34 | 6 | 4 | 1 | 1 | ... | ... | ... | 12 | 15 | 1 | 3 | 8 | 5 | 2 |
| **General Contusions** | 3 | 1 | 1 | 2 | ... | 1 | ... | ... | ... | ... | 3 | 1 | ... | ... | ... | ... | |
| **Local Injuries.** | | | | | | | | | | | | | | | | | |
| *Injuries of the head—* | | | | | | | | | | | | | | | | | |
| Contusion | 12 | 1 | ... | 2 | 1 | 6 | 3 | 1 | ... | ... | ... | 12 | ... | ... | 1 | ... | ... |
| Scalp wounds | 34 | 16 | 2 | 6 | 4 | 9 | 12 | 9 | 3 | 5 | 24 | 22 | 1 | 1 | ... | 1 | 1 |
| Concussion | 43 | 9 | 7 | 10 | 13 | 12 | 4 | 2 | 3 | 1 | 22 | 23 | 3 | 2 | ... | ... | 2 |
| Fracture—Vault: | | | | | | | | | | | | | | | | | |
| Simple | 4 | 2 | 3 | 1 | ... | 1 | ... | 1 | ... | ... | ... | 3 | 2 | ... | ... | ... | 1 |
| Compound | 2 | 1 | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | 3 | ... | ... | ... | ... | ... |
| „ depressed | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| „ comminuted | 2 | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... |
| Of base | 11 | 4 | ... | 1 | 1 | 6 | 2 | 3 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... |
| Traumatic epilepsy | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| *Injuries of the face—* | | | | | | | | | | | | | | | | | |
| Contusion | 2 | 2 | 1 | ... | 1 | ... | 1 | 1 | ... | ... | 1 | 1 | 1 | ... | 1 | ... | ... |
| Wound | 13 | 1 | 2 | 1 | 3 | ... | 5 | 2 | ... | 1 | 4 | 3 | 1 | 2 | 1 | 1 | 2 |
| Fracture—Sup. maxilla | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| Inf. maxilla | 3 | ... | ... | ... | ... | 1 | 1 | ... | 1 | ... | ... | 2 | 1 | ... | ... | ... | ... |
| *Injuries of the eye—* | | | | | | | | | | | | | | | | | |
| Injury to eyeball | 2 | 1 | ... | ... | 1 | ... | 1 | 1 | ... | ... | ... | 2 | ... | ... | 1 | ... | ... |
| *Injuries of the neck—* | | | | | | | | | | | | | | | | | |
| Contusion | 2 | 1 | 1 | ... | ... | ... | ... | 1 | 1 | ... | ... | 1 | 1 | 1 | ... | ... | ... |
| Wounds | 6 | 6 | ... | ... | 2 | 2 | 3 | 4 | 1 | ... | 3 | 7 | 1 | 1 | ... | ... | ... |
| Sprain | 4 | ... | ... | ... | ... | 2 | 1 | ... | ... | 1 | 1 | 1 | 1 | 1 | ... | ... | ... |
| *Injuries of the chest—* | | | | | | | | | | | | | | | | | |
| Contusion | 5 | 1 | ... | ... | 3 | 1 | ... | ... | 1 | 1 | ... | 3 | ... | 1 | ... | 1 | 1 |
| Wound | 2 | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... |
| Fracture of rib | 16 | 5 | ... | 1 | 2 | 5 | 1 | 3 | 6 | 3 | 2 | 15 | ... | ... | 2 | 1 | 1 |
| Contusion of lung | 2 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | 1 | ... | ... | 1 | ... | ... |
| *Injuries of the back—* | | | | | | | | | | | | | | | | | |
| Contusion | 7 | 1 | 1 | ... | 1 | 2 | ... | 2 | 1 | 1 | ... | 8 | ... | ... | ... | ... | ... |
| Wound | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... |

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## *Injuries.*

| Duration of residence. | | | | | | | | | Result. | | | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. 4 | Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–4 | Mts 4–6 | Mts. 6–9 | Mts. 9–12 | Above a year. | C. | R. | U. | D. | |
| 1 | 11 | 4 | 8 | 4 | 2 | ... | ... | ... | 20 | 5 | ... | 15 | See Summary of Injuries. |
| 2 | 10 | 14 | 5 | 3 | 1 | 1 | ... | ... | 40 | 2 | ... | 4 | Ditto. |
| 3 | 1 | ... | ... | ... | ... | ... | ... | ... | 4 | ... | ... | ... | |
| 5 | 5 | 3 | ... | ... | ... | ... | ... | ... | 12 | ... | ... | 1 | Epilepsy 1, D. T. 1, hemiplegia 2; 1 fatal from hæmophilia. |
| 9 | 22 | 13 | 5 | 1 | ... | ... | ... | ... | 47 | 1 | ... | 2 | |
| 2 | 25 | 12 | 2 | 1 | ... | ... | ... | ... | 50 | 2 | ... | ... | |
| 2 | 2 | 2 | ... | ... | ... | ... | ... | ... | 5 | ... | ... | 1 | Ditto. |
| .. | 2 | 1 | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | |
| .. | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | Elevation and trephining; railway men. |
| 3 | 1 | 6 | 5 | ... | ... | ... | ... | ... | 12 | ... | ... | 3 | |
| .. | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Trephined. |
| 2 | 1 | 1 | ... | ... | ... | ... | ... | ... | 4 | ... | ... | ... | |
| 5 | 7 | 2 | ... | ... | ... | ... | ... | ... | 14 | ... | ... | ... | Eyelid 1, forehead 9, chest 4, D. T. 2, bullet wound 1. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | 2 | 1 | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | Hæmorrhage from ear 1, fracture of clavicle 1. |
| ... | 3 | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | Excision 3. |
| 1 | 2 | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | |
| 1 | 1 | 5 | 3 | 1 | 1 | ... | ... | ... | 10 | ... | ... | 2 | Penetrating 4. |
| 1 | ... | 2 | 1 | ... | ... | ... | ... | ... | 4 | ... | ... | ... | 1 scalp wound. |
| 2 | 2 | 2 | ... | ... | ... | ... | ... | ... | 5 | ... | ... | 1 | 2 pneumonia; fatal: æt. 76 ? syncope. |
| 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | Bullet wounds; 1 also of abdomen. |
| 3 | 5 | 10 | 1 | 2 | ... | ... | ... | ... | 17 | 2 | ... | 2 | See General Summary. |
| ... | ... | 2 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | |
| 2 | 2 | 3 | 1 | ... | ... | ... | ... | ... | 8 | ... | ... | ... | |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |

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## Table II.—

| INJURIES. | Sex. | | Age. | | | | | | | | Duration before admission. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | Under 5 | 5–10 | 10–20 | 20–30 | 30–40 | 40–50 | 50–60 | Above 60 | Under 1 hour. | Hrs. 1–6 | Hrs. 7–12 | Hrs. 13–24 | Dys. 1–5 | Dys. 5–6. Above 6 days. Not stated. |
| **Local Injuries—** *continued.* | | | | | | | | | | | | | | | | |
| *Injuries of the spine—* | | | | | | | | | | | | | | | | |
| Concussion | 3 | 1 | ... | ... | ... | ... | 4 | ... | ... | ... | ... | 1 | 1 | ... | ... | ... 2 |
| Fracture | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... ... |
| *Injuries of the abdomen—* | | | | | | | | | | | | | | | | |
| Wound | 3 | ... | 1 | ... | ... | 1 | 1 | ... | ... | ... | 2 | 1 | ... | ... | ... | ... ... |
| Contusion | 15 | 2 | 5 | 3 | 4 | 2 | 2 | 1 | ... | ... | 11 | 5 | 1 | ... | ... | ... ... |
| Contusion of hernial sac | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... ... |
| *Injuries of the pelvis—* | | | | | | | | | | | | | | | | |
| Contusion | 2 | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | 1 | ... | ... ... |
| Fracture | 6 | 1 | ... | 2 | ... | 1 | 3 | 1 | ... | ... | 6 | 1 | ... | ... | ... | ... ... |
| Wound of buttock | 1 | 1 | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | 2 | ... | ... | ... | ... ... |
| Contusion of groin | 2 | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | 2 | ... | ... | ... | ... ... |
| Foreign bodies in vagina | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 ... |
| Wound of genitals | 1 | 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... ... |
| Contusion of perinæum | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... ... |
| Rupture of perinæum | ... | 3 | ... | ... | ... | 1 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | 3 ... |
| Rupture of urethra | 6 | ... | ... | 1 | 1 | 1 | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | ... ... |
| **Upper Extremity.** | | | | | | | | | | | | | | | | |
| Contusion | 2 | 2 | ... | ... | 2 | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... ... |
| Wound of arm | 4 | ... | ... | 1 | 2 | ... | ... | 1 | ... | ... | 4 | ... | ... | ... | ... | ... ... |
| Wound of forearm | 12 | 6 | ... | 3 | 2 | 7 | 1 | ... | 5 | ... | 8 | 6 | 1 | 1 | 1 | ... 1 ... |
| Wound of hand | 1 | 2 | ... | ... | 1 | ... | 1 | ... | 1 | ... | 1 | 2 | ... | ... | ... | ... ... |
| Contusion of nerve | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 ... |
| *Dislocation of—* | | | | | | | | | | | | | | | | |
| Humerus | 5 | 2 | ... | ... | ... | ... | 1 | ... | 1 | 5 | 1 | 4 | ... | ... | ... | 2 ... |
| Forearm | ... | 2 | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 ... |
| *Fracture of—* | | | | | | | | | | | | | | | | |
| Scapula | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... ... |
| Clavicle | 2 | 2 | ... | ... | 1 | ... | 1 | 1 | ... | 1 | ... | 3 | ... | ... | ... | 1 ... |
| Humerus— | | | | | | | | | | | | | | | | |
| Simple | 2 | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | 1 | ... ... |
| Comminuted | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... ... |
| Compound | 3 | ... | ... | ... | 2 | ... | ... | ... | 1 | ... | ... | 2 | ... | 1 | ... | ... ... |
| Radius and ulna— | | | | | | | | | | | | | | | | |
| Simple | 1 | 1 | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... ... |
| Compound | 5 | 2 | ... | 1 | 1 | 1 | 1 | ... | 1 | 2 | 2 | 5 | ... | ... | ... | ... ... |
| Ulna— | | | | | | | | | | | | | | | | |
| Simple | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... ... |

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*continued.*

| Duration of residence. | | | | | | | | | Result. | | | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dys. 1–4 | Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–12 | Above a year. | C. | R. | U. | D. | |
| ... | ... | 2 | 2 | ... | ... | ... | ... | ... | 2 | 2 | ... | ... | Fracture of ribs, hæmaturia 1, retention 1. |
| ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | Dorsal, ? hæmorrhage. |
| 2 | 1 | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | 1 | Fatal: penetrating with protrusion of intestine. |
| 5 | 8 | 3 | 1 | ... | ... | ... | ... | ... | 12 | 2 | ... | 3 | |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| 1 | ... | 1 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | |
| 4 | ... | 1 | 2 | ... | ... | ... | ... | ... | 3 | ... | ... | 4 | |
| ... | 2 | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | |
| 1 | ... | ... | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | 2 | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | Scrotum 1, labia 1. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | ... | 1 | 2 | ... | ... | ... | ... | ... | 1 | 1 | 1 | ... | |
| ... | 2 | 3 | 1 | ... | ... | ... | ... | ... | 5 | ... | ... | 1 | Fatal peritonitis 1. |
| ... | 2 | 1 | ... | 1 | ... | ... | ... | ... | 4 | ... | ... | ... | 1 suppuration in ankle, amputation. |
| ... | 3 | ... | 1 | ... | ... | ... | ... | ... | 4 | ... | ... | ... | Axilla 1. |
| 2 | 11 | 4 | 1 | ... | ... | ... | ... | ... | 16 | 2 | ... | ... | |
| 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | 2 | 1 | ... | ... | |
| 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | Ulnar. |
| 3 | 2 | 1 | 1 | ... | ... | ... | ... | ... | 6 | 1 | ... | ... | |
| 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | 4 months' and 5 months' standing. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | With fracture of ribs, emphysema and hæmoptysis. |
| ... | 4 | ... | ... | ... | ... | ... | ... | ... | 4 | ... | ... | ... | |
| ... | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| 1 | ... | 2 | ... | ... | ... | ... | ... | ... | 2 | 1 | ... | ... | Also comminuted 1. |
| 1 | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | Also nasal bones 1, synovitis of wrist and general contusion 1. |
| ... | 3 | 2 | 2 | ... | ... | ... | ... | ... | 5 | 2 | ... | ... | Also comminuted 1, amputation 1. |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | With wound of hand. |

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TABLE II.—

| INJURIES. | Sex. | | Age. | | | | | | | | Duration before admission. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | Under 5 | 5–10 | –20 | –30 | –40 | –50 | –60 | Above 60 | Under 1 hour. | Hrs. 1–6 | Hrs. 7–12 | Hrs. 13–24 | Dys. 1–3 | Dys. 3–6 | Above 6 days. Not reported. |
| **UPPER EXTREMITY—** *continued.* | | | | | | | | | | | | | | | | | |
| *Fracture of—* | | | | | | | | | | | | | | | | | |
| Radius— | | | | | | | | | | | | | | | | | |
| Simple | 2 | 2 | ... | ... | ... | ... | ... | 1 | ... | 3 | ... | 1 | ... | 1 | ... | ... | 2 | ... |
| Compound | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... |
| Hand and fingers— | | | | | | | | | | | | | | | | | |
| Comp. and comminuted | 17 | ... | ... | ... | 5 | 5 | 3 | 2 | 1 | 1 | 16 | 1 | ... | ... | ... | ... | ... | ... |
| **LOWER EXTREMITY.** | | | | | | | | | | | | | | | | | |
| *Contusion of—* | | | | | | | | | | | | | | | | | |
| Hip | 6 | 2 | ... | 1 | 3 | ... | ... | ... | 2 | 2 | ... | 4 | ... | 1 | 1 | 1 | 1 | ... |
| Thigh | 5 | 3 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | ... | ... | 8 | ... | ... | ... | ... | ... | ... |
| Leg | 7 | 1 | 1 | ... | ... | 1 | 3 | 2 | 1 | ... | 5 | 3 | ... | ... | ... | ... | ... | ... |
| Foot | 5 | 1 | 1 | ... | 1 | 2 | 1 | ... | 1 | ... | 1 | 4 | ... | ... | ... | 1 | ... | ... |
| *Wound of—* | | | | | | | | | | | | | | | | | |
| Buttocks | 2 | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... |
| Thigh | 7 | 1 | ... | ... | 2 | 3 | 2 | ... | ... | ... | 1 | 5 | ... | 1 | ... | ... | ... | ... |
| Knee | 2 | 4 | ... | ... | 3 | 2 | ... | 1 | ... | ... | 3 | 3 | ... | ... | ... | ... | ... | ... |
| Leg | 14 | 5 | ... | 1 | 6 | 2 | 1 | 4 | 1 | ... | 10 | 5 | 2 | ... | 1 | ... | 1 | ... |
| Foot | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| *Rupture of ligament* | 1 | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... |
| *Dislocation of—* | | | | | | | | | | | | | | | | | |
| Hip | 3 | 3 | 2 | ... | 2 | 2 | ... | ... | ... | ... | ... | 3 | ... | ... | ... | ... | 3 | ... |
| Knee | 1 | 1 | ... | ... | ... | ... | 1 | ... | 1 | ... | 2 | ... | ... | ... | ... | ... | ... | ... |
| Patella | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Ankle | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... |
| Foot | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| *Fracture of femur—* | | | | | | | | | | | | | | | | | |
| Simple | 49 | 25 | 27 | 15 | 13 | 4 | 5 | 5 | 1 | 4 | 6 | 62 | 2 | ... | 1 | 1 | 2 | ... |
| Compound | 3 | ... | ... | 3 | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | ... | ... | ... |
| Comp. comminuted | 3 | 1 | 1 | ... | 1 | 1 | ... | ... | 1 | ... | 1 | 3 | ... | ... | ... | ... | ... | ... |
| Neck of femur | 4 | 7 | ... | ... | ... | ... | ... | 2 | 1 | 8 | ... | 7 | ... | ... | 2 | ... | 2 | ... |
| *Fracture of patella* | 18 | 7 | ... | ... | ... | 6 | 5 | 5 | 8 | 1 | 2 | 17 | 1 | 1 | ... | ... | 4 | ... |
| *Fracture of tibia—* | | | | | | | | | | | | | | | | | | |
| Simple | 24 | 11 | 6 | 14 | 6 | 3 | 1 | 3 | 2 | ... | 10 | 18 | 2 | 3 | ... | ... | 1 | 1 |
| *Fracture of fibula—* | | | | | | | | | | | | | | | | | | |
| Simple | 35 | 6 | ... | ... | 4 | 12 | 12 | 7 | 4 | 2 | 13 | 20 | 2 | 5 | ... | 1 | ... | ... |

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***continued.***

| Duration of residence. | | | | | | | | | Result. | | | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dys. 1–4 | Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–12 | Above a year. | C. | R. | U. | D. | |
| ... | ... | 3 | 1 | ... | ... | ... | ... | ... | 4 | ... | ... | ... | Ununited 2, both arms 1, hæmorrhage from ear 1. |
| 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| 5 | 2 | 7 | 3 | ... | ... | ... | ... | ... | 14 | 3 | ... | ... | Amputation 12, bone removed 1. |
| 1 | 4 | 2 | 1 | ... | ... | ... | ... | ... | 8 | ... | ... | ... | |
| ... | 3 | 2 | 2 | ... | 1 | ... | ... | ... | 8 | ... | ... | ... | Hæmophilia 1. |
| 2 | 5 | 1 | ... | ... | ... | ... | ... | ... | 8 | ... | ... | ... | |
| 1 | 2 | 3 | ... | ... | ... | ... | ... | ... | 6 | ... | ... | ... | |
| ... | ... | 2 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | |
| ... | 2 | 5 | ... | ... | ... | ... | ... | ... | 7 | ... | ... | ... | |
| 1 | 2 | 2 | 1 | ... | ... | ... | ... | ... | 6 | ... | ... | ... | 1 erysipelas. |
| 1 | 7 | 5 | 2 | 2 | 1 | ... | ... | ... | 18 | 8 | ... | 1 | 2 erysipelas, 1 fatal, 1 cellulitis. |
| 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| ... | ... | 2 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | Patellæ. |
| 1 | 1 | 2 | 2 | ... | ... | ... | ... | ... | 3 | 3 | ... | ... | |
| ... | ... | 2 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Compound. |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| 1 | 3 | 26 | 38 | 5 | ... | ... | 1 | ... | 71 | 2 | ... | 1 | |
| 1 | ... | ... | 2 | ... | ... | ... | ... | ... | 1 | ... | ... | 2 | |
| ... | ... | ... | 1 | 1 | 1 | 1 | ... | ... | 3 | ... | ... | 1 | |
| 1 | ... | 1 | 7 | 2 | ... | ... | ... | ... | 10 | ... | ... | 1 | |
| ... | ... | 9 | 16 | ... | ... | ... | ... | ... | 23 | 2 | ... | ... | |
| 5 | 16 | 13 | 1 | ... | ... | ... | ... | ... | 26 | 9 | ... | ... | |
| 6 | 25 | 8 | 2 | ... | ... | ... | ... | ... | 30 | 11 | ... | ... | |

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## Table II.—

| INJURIES. | Sex. | | Age. | | | | | | | | Duration before admission. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | Under 5 | 5–10 | 10–20 | 20–30 | 30–40 | 40–50 | 50–60 | Above 60 | Under 1 hour. | Hrs. 1–6 | Hrs. 7–12 | Hrs. 13–24 | Dys. 1–3 | Dys. 3–6 | Above 6 days. | Not recorded. |
| **Lower Extremity—** *continued.* | | | | | | | | | | | | | | | | | | |
| *Fracture of tibia and fibula—* | | | | | | | | | | | | | | | | | | |
| Simple | 64 | 19 | 3 | 10 | 11 | 6 | 20 | 15 | 13 | 5 | 11 | 64 | 3 | 3 | ... | ... | 2 | ... |
| Compound | 6 | 2 | ... | 1 | ... | 1 | ... | 3 | 3 | ... | 5 | 2 | 1 | ... | ... | ... | ... | ... |
| Comp. comminuted | 3 | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | 1 | 2 | ... | ... | ... | ... | ... | ... |
| *Fracture of bones of foot* | 13 | 1 | ... | ... | 3 | 4 | 4 | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| **Joints.** | | | | | | | | | | | | | | | | | | |
| *Wound of—* | | | | | | | | | | | | | | | | | | |
| Elbow | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... |
| Wrist | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... |
| Finger | 2 | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... |
| Knee | 2 | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... |
| *Synovitis (traumatic)—* | | | | | | | | | | | | | | | | | | |
| Shoulder | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Elbow | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Hip | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Knee | 29 | 6 | ... | ... | 9 | 10 | 11 | 3 | 2 | ... | 2 | 13 | 3 | 3 | 4 | ... | 10 | ... |
| Ankle | 3 | 1 | ... | ... | ... | 1 | ... | 2 | 1 | ... | ... | 1 | ... | 1 | 1 | 1 | ... | ... |
| Medical cases | 9 | 16 | 1 | ... | 5 | 8 | 6 | 4 | 1 | ... | ... | 3 | ... | ... | 1 | ... | 17 | 4 |
| Trivial cases | 7 | 2 | ... | 1 | 3 | 4 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Ophthalmic cases, &c., not included in the above report | 171 | 158 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Brought in dead or dying soon after admission | 12 | 3 | 5 | 1 | 3 | 1 | 1 | ... | 2 | 2 | ... | ... | ... | ... | ... | ... | ... | ... |
| Total | 1587 | 1112 | | | | | | | | | | | | | | | | |
| | 2699 | | | | | | | | | | | | | | | | | |

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***continued.***

| Duration of residence. | | | | | | | | | Result. | | | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dys. 1–4 | Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–13 | Above a year. | C. | R. | U. | D. | |
| 2 | 27 | 34 | 18 | 2 | ... | ... | ... | ... | 66 | 17 | ... | ... | |
| ... | ... | ... | 2 | 1 | 5 | ... | ... | ... | 8 | ... | ... | ... | |
| 1 | ... | ... | ... | 1 | 1 | ... | ... | ... | 2 | ... | ... | 1 | |
| ... | 4 | 2 | 6 | 1 | ... | 1 | ... | ... | 13 | 1 | ... | ... | Compound 6, pyæmia, C. 1; 1 double Pirogoff. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Amputation. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Left, lacerated, machinery. |
| ... | ... | 2 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | Amputation. |
| ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | Secondary amputation 1, antiseptics 1. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| 5 | 18 | 10 | 2 | ... | ... | ... | ... | ... | 34 | 1 | ... | ... | Wound of elbow, cellulitis 1, retention of urine, 1, scalp wound 1, wound near joint 1, tonsillitis 1, psoriasis 1, chronic bursitis 1; right 21, left 13; 2 suffering from gonorrhœa. |
| ... | 4 | ... | ... | ... | ... | ... | ... | ... | 4 | ... | ... | ... | |
| 9 | 2 | 7 | 5 | 2 | ... | ... | ... | ... | 6 | 17 | ... | 2 | Rheumatism 1, tubercle 1, typhoid 1, hysteria 3, dyspepsia 1, constipation 1, peritonitis 1, ascites 1, malignant of peritoneum 2, empyema 1, pneumonia 2, renal disease 1, cerebral embolism 1, pregnancy 1, alcoholism 1. |
| 6 | 3 | ... | ... | ... | ... | ... | ... | ... | 9 | ... | ... | ... | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 163 | 141 | 22 | 3 | Fatal: females 2, meningitis, cerebro-spinal meningitis. M., cataract and diabetes. |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 15 | Scald 1, abdominal injuries, &c. |
| | | | | | | | | | 2010 | 574 | 44 | 171 | |
| | | | | | | | | | 2699 | | | | |

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TABLE III.—

| SURGICAL OPERATIONS. | Sex. | | Age. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | Under 5 | 5–10 | –20 | –30 | –40 | –50 | –60 | Above 60 |
| **REMOVAL OF TUMOURS AND GROWTHS.** | | | | | | | | | | |
| Amputation of the breast | ... | 10 | ... | ... | ... | ... | 1 | 6 | 2 | 1 |
| Ditto with removal of glands | ... | 15 | ... | ... | ... | ... | 7 | 5 | 2 | 1 |
| Removal of recurrent growth | ... | 5 | ... | ... | ... | ... | 1 | 2 | 1 | 1 |
| For epithelioma of lip | 8 | ... | ... | ... | ... | ... | ... | 1 | 4 | 3 |
| „ superior maxilla | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| „ tongue | 5 | ... | ... | ... | ... | ... | ... | 2 | 1 | 2 |
| „ ear | 3 | ... | ... | ... | ... | ... | 2 | ... | ... | 1 |
| „ face | 4 | 2 | ... | ... | ... | ... | ... | 3 | 1 | 2 |
| „ nose | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| „ glands | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 |
| „ neck | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 |
| „ penis | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| „ scrotum | 2 | ... | ... | ... | ... | ... | 1 | ... | ... | 1 |
| „ rectum | 2 | 1 | ... | ... | ... | ... | 1 | ... | 1 | 1 |
| „ vulva | ... | 2 | ... | ... | ... | ... | ... | ... | 1 | 1 |
| For cylindroma of rectum | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| For sarcoma of skin | 2 | 1 | ... | ... | ... | 1 | ... | 1 | ... | 1 |
| „ tempero-maxill. region | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| „ upper jaw | 1 | 2 | ... | ... | ... | ... | 2 | ... | 1 | ... |
| „ lower jaw | 2 | ... | ... | ... | ... | ... | ... | 1 | ... | 1 |
| „ glands | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| „ breast | ... | 3 | ... | ... | ... | ... | 1 | ... | ... | 2 |
| „ sacrum | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| „ lower extremity | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| Melanotic sarcoma | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... |
| For adenoma of breast | ... | 5 | ... | ... | 1 | 4 | ... | ... | ... | ... |
| For myxoma | ... | 3 | ... | 2 | ... | ... | ... | 1 | ... | ... |
| For lipoma | 3 | 9 | ... | ... | 2 | 2 | 2 | 3 | ... | 3 |
| For polypus | ... | 2 | ... | ... | ... | ... | ... | 2 | ... | ... |
| For enchondroma | ... | 3 | ... | ... | ... | 1 | 1 | 1 | ... | ... |
| For exostosis | 5 | ... | ... | ... | 5 | ... | ... | ... | ... | ... |
| For papilloma | 2 | ... | ... | ... | 1 | 1 | ... | ... | ... | ... |
| For nævus | 1 | 8 | 9 | ... | ... | ... | ... | ... | ... | ... |
| For rodent ulcer | 3 | 2 | ... | ... | ... | ... | ... | 3 | 1 | 1 |
| For lupus | 3 | 9 | 1 | 1 | 8 | ... | ... | 1 | 1 | ... |
| For ovarian tumour | ... | 9 | ... | ... | ... | 2 | 3 | 2 | 1 | 1 |
| For sebaceous cysts | 2 | 2 | ... | ... | ... | 1 | 2 | 1 | ... | ... |
| For other cysts | 4 | 5 | 1 | ... | 1 | 1 | 3 | 2 | 1 | ... |
| **CIRCULATORY SYSTEM.** | | | | | | | | | | |
| Ligature of carotid | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| „ radial | 5 | 3 | ... | 1 | 1 | 2 | 1 | 2 | 1 | ... |
| „ ulnar | 4 | ... | ... | ... | 3 | 1 | ... | ... | ... | ... |
| „ femoral | 2 | ... | ... | ... | ... | 1 | ... | ... | 1 | ... |
| For varicose veins | 4 | ... | ... | ... | ... | 2 | ... | 2 | ... | ... |

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## *Surgical Operations.*

| Duration of residence after operation. | | | | | | | | | Result. | | | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Under 4 days. | Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–12 | Above a year. | C. | R. | U. | D | |
| 2 | 1 | 4 | 2 | 1 | ... | ... | ... | ... | 7 | 2 | ... | 1 | Chronic inflammatory 1. |
| ... | ... | 8 | 5 | 2 | ... | ... | ... | ... | 12 | 2 | ... | 1 | |
| ... | 1 | 2 | 2 | ... | ... | ... | ... | ... | 4 | 1 | ... | ... | |
| 1 | 4 | 3 | ... | ... | ... | ... | ... | ... | 6 | 1 | ... | 1 | |
| ... | ... | .. | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | |
| 1 | 1 | 2 | 1 | ... | ... | ... | ... | ... | 3 | 1 | ... | 1 | 1 with excision of jaw. |
| 1 | 1 | ... | 1 | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | |
| ... | 1 | 3 | 1 | 1 | ... | ... | ... | ... | 2 | 3 | ... | 1 | |
| ... | ... | ... | 1 | ... | ... | .. | ... | ... | ... | ... | ... | 1 | |
| ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | |
| ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | |
| ... | ... | 2 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | |
| 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 2 | Excision 3. |
| ... | 1 | ... | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | 2 | 1 | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | Abdominal wall 1. |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | 1 | 1 | 1 | ... | ... | ... | ... | ... | 3 | ... | ... | ... | |
| ... | 1 | 1 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | ... | 1 | ... | 2 | ... | ... | ... | ... | 2 | 1 | ... | ... | |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Chestwall and axillary glands. |
| ... | ... | 4 | ... | 1 | ... | ... | ... | ... | 5 | ... | ... | ... | |
| 1 | 2 | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | 1 | Meningitis 1, polypi of nose 3. |
| ... | 4 | 6 | 2 | ... | ... | ... | ... | ... | 11 | 1 | ... | ... | Back 5, side 1, forehead 1, neck 1, shoulder 4. |
| ... | 1 | 1 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | |
| ... | 2 | 1 | ... | ... | .. | .. | ... | ... | 3 | ... | ... | ... | |
| ... | 1 | 2 | 1 | ... | 1 | ... | ... | ... | 5 | ... | ... | ... | Femur 3, ulna 1, subungual 1. |
| ... | 1 | 1 | ... | ... | . . | ... | ... | ... | 2 | ... | ... | ... | Abdominal wall 1, rectum 1. |
| 3 | 1 | 3 | 2 | ... | ... | ... | ... | ... | 8 | 1 | ... | ... | Excision 4, electrolysis 5. |
| ... | 1 | 1 | 2 | 1 | ... | ... | ... | ... | 1 | 4 | ... | ... | |
| 1 | 3 | 3 | 5 | ... | ... | ... | ... | ... | 11 | 1 | ... | ... | |
| 2 | 1 | 3 | 2 | 1 | ... | ... | ... | ... | 6 | ... | ... | 3 | |
| 1 | 2 | 1 | ... | ... | ... | ... | ... | ... | 4 | ... | ... | ... | |
| 1 | 3 | 5 | ... | ... | ... | ... | ... | ... | 9 | ... | ... | ... | Labium 1, abdomen 1, dermoid 1, cyst of neck 2, breast 3, lip 1. |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Hæmorrhage. |
| 1 | 3 | 2 | 2 | ... | ... | ... | ... | ... | 8 | ... | ... | ... | Wound 3. |
| 1 | 2 | 1 | ... | ... | ... | ... | ... | ... | 4 | .. | ... | ... | Traumatic aneurism 1, wound 2. |
| ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | Popliteal aneurism 1, stump 1. |
| ... | ... | 3 | 1 | ... | ... | ... | ... | ... | 4 | ... | ... | ... | Excision 4. |



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TABLE III.—

| SURGICAL OPERATIONS. | Sex. | | Age. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | Under 5 | 5–10 | –20 | –30 | –40 | –50 | –60 | Above 60 |
| **CIRCULATORY SYSTEM—*continued.*** | | | | | | | | | | |
| Venesection | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| **RESPIRATORY SYSTEM.** | | | | | | | | | | |
| Tracheotomy | 4 | 1 | 1 | 1 | ... | ... | ... | 2 | 1 | ... |
| **DISEASE OF DUCTLESS GLANDS.** | | | | | | | | | | |
| Division of thyroid isthmus | 1 | 2 | ... | ... | 1 | 2 | ... | ... | ... | ... |
| Excision of thyroid | 1 | 1 | ... | ... | 1 | 1 | ... | ... | ... | ... |
| For cyst of thyroid | 1 | 1 | ... | ... | ... | 1 | 1 | ... | ... | ... |
| **LYMPHATIC SYSTEM.** | | | | | | | | | | |
| Removal of glands | 4 | 5 | ... | ... | 5 | 2 | 1 | 1 | ... | ... |
| **DIGESTIVE SYSTEM.** | | | | | | | | | | |
| Excision of tonsils | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... |
| Radical cure of hernia | 2 | ... | ... | 1 | ... | ... | ... | 1 | ... | ... |
| Strangulated inguinal hernia | 12 | 2 | 2 | ... | ... | 2 | 2 | 5 | 2 | 1 |
| " femoral hernia | 1 | 12 | ... | ... | ... | ... | 2 | 4 | 3 | 4 |
| " umbilical hernia | 1 | 1 | ... | ... | ... | ... | ... | 1 | ... | 1 |
| Incision into hernial sac | 2 | ... | ... | ... | ... | 1 | ... | ... | 1 | ... |
| Gastrostomy | 2 | 1 | ... | ... | 1 | ... | ... | ... | 1 | 1 |
| Abdominal section | 3 | 4 | 1 | ... | ... | 2 | ... | 1 | 3 | ... |
| Colotomy | 3 | 3 | ... | ... | ... | 1 | ... | 1 | 2 | 1 |
| Littré's operation | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... |
| For fissure of anus | 2 | 3 | ... | ... | ... | ... | 3 | 2 | ... | ... |
| For hæmorrhoids | 4 | 4 | ... | ... | ... | 2 | 1 | 3 | 2 | ... |
| For fistula in ano | 17 | 5 | 1 | ... | 1 | 6 | 3 | 8 | 2 | 1 |
| Resection of intestine | 1 | 1 | ... | ... | 1 | ... | ... | ... | 1 | ... |
| **GENITO-URINARY SYSTEM.** | | | | | | | | | | |
| For phimosis | 24 | ... | 4 | 1 | 10 | 5 | 1 | 2 | ... | 1 |
| For hydrocele | 11 | ... | ... | ... | 1 | 2 | 5 | ... | 1 | 2 |
| For varicocele | 12 | ... | ... | ... | 6 | 5 | 1 | ... | ... | ... |
| For castration | 6 | ... | ... | 1 | 1 | 1 | 2 | ... | 1 | ... |
| For rupture of perinæum | ... | 2 | ... | ... | ... | ... | 2 | ... | ... | ... |
| For perineal fistula | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| For imperforate hymen | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... |
| For urethral caruncle | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... |
| For atresia of vagina | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... |
| For removal of warts | ... | 4 | ... | ... | 3 | 1 | ... | ... | ... | ... |
| For removal of ovaries | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... |
| For removal of uterus and ovaries | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... |
| Supra-pubic puncture | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Forcible dilatation of stricture | 2 | ... | ... | ... | ... | ... | 2 | ... | ... | ... |
| Internal urethrotomy | 14 | ... | ... | ... | ... | 2 | 5 | 6 | ... | 1 |
| Perineal section | 21 | ... | 2 | 1 | ... | 2 | 2 | 5 | 4 | 5 |

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*continued.*

| Duration of residence after operation. | | | | | | | | | Result. | | | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Under 4 days. | Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–12 | Above a year. | C. | R. | U. | D. | |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | Fracture of ribs. |
| 2 | 1 | 2 | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | 3 | Syphilis 2, scald 2. |
| 1 | ... | 1 | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | 1 | |
| ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | 1 complete removal, 1 partial. |
| ... | 1 | ... | ... | 1 | ... | ... | ... | ... | 2 | ... | ... | ... | 1 paracentesis, 1 incision. |
| ... | 5 | 4 | ... | ... | ... | ... | ... | ... | 9 | ... | ... | ... | |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | 1 double. |
| 3 | 2 | 5 | 4 | ... | ... | ... | ... | ... | 9 | ... | ... | 5 | Sac removed 7, radical cure 3, extra-peritoneal 1. |
| 2 | 1 | 5 | 4 | 1 | ... | ... | ... | ... | 10 | ... | ... | 3 | Tetanus 1, collapse 2. |
| ... | 1 | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | Chronic phthisis 1. |
| ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | Abscess. |
| 1 | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | 2 | |
| 5 | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | 6 | Exploratory 4, intestinal obstruction 3. |
| ... | 2 | ... | 2 | 2 | ... | ... | ... | ... | ... | 2 | ... | 4 | Intestinal obstruction 1. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | |
| ... | 2 | 2 | 1 | ... | ... | ... | ... | ... | 5 | ... | ... | ... | Incision 4, stretching 1. |
| ... | 2 | 4 | 2 | ... | ... | ... | ... | ... | 8 | ... | ... | ... | Clamp and ligature 2, clamp and cautery 5, ligature 1. |
| ... | 9 | 10 | 3 | ... | ... | ... | ... | ... | 19 | 3 | ... | ... | |
| 1 | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | Malignant disease 1, fistula 1. |
| 2 | 10 | 5 | 6 | 1 | ... | ... | ... | ... | 24 | ... | ... | ... | Incision 4. |
| ... | 4 | 5 | 2 | ... | ... | ... | ... | ... | 7 | 4 | ... | ... | Tapping 3, radical cure 2, injection 6. |
| ... | 5 | 7 | ... | ... | ... | ... | ... | ... | 12 | ... | ... | ... | Excision 7, ligature 3, pins 2. |
| ... | ... | 5 | 1 | ... | ... | ... | ... | ... | 6 | ... | ... | ... | Sarcoma 4, retained testes 2. |
| ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | Exhaustion and septicæmia. |
| ... | ... | 2 | 1 | 1 | ... | ... | ... | ... | 4 | ... | ... | ... | |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Atresia of vagina. |
| 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | 1 | ... | ... | 1 | ... | ... | ... | ... | 1 | 1 | ... | ... | |
| ... | 3 | 7 | 2 | 1 | 1 | ... | ... | ... | 13 | 1 | ... | ... | |
| 2 | 5 | 5 | 8 | 1 | ... | ... | ... | ... | 11 | 2 | ... | 8 | Urethral calculus, fistula, stricture, extravasation. |

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TABLE III.—

| SURGICAL OPERATIONS. | Sex. | | Age. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | Under 5 | 5–10 | –20 | –30 | –40 | –50 | –60 |
| GENITO-URINARY SYSTEM—*continued.* | | | | | | | | | |
| Perineal puncture | 6 | ... | ... | ... | ... | 1 | ... | 2 | 1 |
| Lithotrity | 10 | ... | ... | ... | 1 | ... | ... | 3 | 1 |
| Lithotomy | 4 | ... | ... | 3 | ... | 1 | ... | ... | ... |
| Lateral incision of bladder | 1 | ... | ... | 1 | ... | ... | ... | ... | ... |
| Removal of tumour of bladder | 2 | ... | ... | ... | ... | ... | ... | 1 | 1 |
| Nephrectomy | 1 | ... | ... | 1 | ... | ... | ... | ... | ... |
| LOCOMOTORY SYSTEM. | | | | | | | | | |
| Removal of necrosed bone from— | | | | | | | | | |
| Inferior maxilla | 1 | ... | ... | ... | ... | ... | 1 | ... | ... |
| Humerus | 3 | ... | ... | ... | 3 | ... | ... | .. | ... |
| Radius | 1 | ... | ... | ... | ... | ... | ... | 1 | .. |
| Femur | 5 | 1 | ... | ... | 4 | 1 | ... | ... | 1 |
| Tibia | 12 | 1 | ... | 3 | 8 | 1 | ... | .. | 1 |
| Fibula | 1 | ... | ... | ... | 1 | ... | ... | ... | ... |
| Os calcis and other bones of foot | 3 | 2 | 1 | 1 | ... | 1 | 2 | ... | ... |
| For caries of— | | | | | | | | | |
| Pelvis | ... | 1 | ... | ... | ... | 1 | ... | ... | ... |
| Femur | ... | 1 | ... | ... | 1 | ... | ... | ... | ... |
| Bones of foot | 2 | ... | ... | ... | 2 | ... | ... | ... | ... |
| Excision of— | | | | | | | | | |
| Tempero-maxillary joint | 2 | ... | ... | ... | 2 | ... | ... | ... | ... |
| Shoulder | 2 | ... | ... | ... | ... | ... | 1 | ... | 1 |
| Elbow | 2 | 2 | ... | 1 | ... | 2 | ... | ... | 1 |
| Wrist | ... | 2 | ... | ... | 1 | 1 | ... | ... | ... |
| Hip | 4 | 3 | 1 | 3 | 3 | ... | ... | ... | ... |
| Knee | 5 | 4 | 1 | 2 | 2 | 4 | ... | ... | ... |
| Ankle | 1 | ... | 1 | ... | ... | .. | ... | . | ... |
| Toes | 2 | 1 | ... | ... | ... | 1 | 2 | .. | ... |
| Incision of knee-joint | 4 | ... | 2 | 1 | 1 | ... | .. | ... | ... |
| „ hip | ... | 1 | ... | 1 | ... | ... | ... | ... | ... |
| Aspiration in disease of hip | ... | 1 | 1 | ... | ... | ... | ... | ... | ... |
| „ „ knee | 2 | ... | ... | ... | ... | 1 | ... | 1 | ... |
| Tenotomy for club-foot | 5 | 5 | 2 | 2 | 5 | ... | 1 | ... | ... |
| „ deformity | 3 | 1 | ... | ... | 1 | 1 | 1 | ... | 1 |
| torticollis | 3 | ... | ... | 3 | ... | ... | ... | ... | ... |
| Union of tendon | 1 | 1 | ... | ... | 1 | 1 | ... | ... | ... |
| REPARATIVE OPERATIONS. | | | | | | | | | |
| Contracted cicatrix | ... | 2 | ... | 1 | ... | ... | 1 | ... | ... |

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*continued.*

| uration of residence after operation. | | | | | | | | Result. | | | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts. 9–12 | Above a year. | C. | R. | U. | D. | |
| ... | 1 | 3 | 2 | ... | ... | ... | ... | 2 | 1 | ... | 3 | Exploratory 1, retention 5. |
| 4 | 4 | 1 | ... | ... | ... | ... | ... | 7 | 3 | ... | ... | |
| ... | ... | 3 | 1 | ... | ... | ... | ... | 4 | ... | ... | ... | |
| ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | Cystitis following removal of urethral calculus. |
| ... | ... | ... | 2 | ... | ... | ... | ... | 2 | ... | ... | ... | Villous. |
| ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | Partial, for hydronephrosis. |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| 1 | 1 | 1 | ... | ... | ... | ... | ... | 3 | ... | ... | ... | |
| ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | ... | 3 | ... | 2 | ... | ... | ... | 4 | 2 | ... | ... | Following amputation 2. |
| 3 | 2 | 5 | 3 | ... | ... | ... | ... | 12 | 1 | ... | ... | |
| .. | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | 2 | 1 | 2 | ... | ... | ... | ... | 5 | ... | ... | ... | Os calcis 3. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | ... | 1 | ... | 1 | ... | ... | ... | 1 | 1 | ... | ... | |
| ... | 1 | ... | 1 | ... | ... | ... | ... | 2 | ... | ... | ... | Both sides. |
| ... | ... | 1 | 1 | ... | ... | ... | ... | 2 | ... | ... | ... | |
| ... | ... | 3 | 1 | ... | ... | ... | ... | 4 | ... | ... | ... | |
| 1 | ... | ... | ... | 1 | ... | ... | ... | 1 | 1 | ... | ... | Partial 1. |
| ... | ... | 1 | 1 | 2 | 1 | 1 | 1 | ... | 5 | ... | 2 | |
| ... | ... | 1 | 3 | 4 | 1 | ... | ... | 7 | 2 | ... | ... | 2 afterwards amputation. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | |
| ... | ... | 1 | 2 | ... | ... | ... | ... | 2 | 1 | ... | ... | |
| ... | 1 | ... | 2 | ... | 1 | ... | ... | ... | 4 | ... | ... | Afterwards excision 1, amputation 1. |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | Afterwards excision. |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | |
| 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | |
| 2 | 4 | 3 | 1 | ... | ... | ... | ... | 9 | 1 | ... | ... | |
| 2 | 2 | ... | ... | ... | ... | ... | ... | 3 | 1 | ... | ... | |
| 2 | 1 | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | 2 myotomy. |
| 1 | ... | 1 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | |
| ... | ... | 1 | 1 | ... | ... | ... | ... | 1 | 1 | ... | ... | |

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TABLE III.—

| SURGICAL OPERATIONS. | Sex. | | Age. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | Under 5 | 5–10 | 10–20 | 20–30 | 30–40 | 40–50 | 50–60 | Above 60 |
| **REPARATIVE OPERATIONS—*continued.*** | | | | | | | | | | |
| Harelip | 7 | 3 | 10 | ... | ... | ... | ... | ... | ... | ... |
| Cleft palate | 6 | 6 | ... | 5 | 5 | 2 | ... | ... | ... | ... |
| Deformity | 2 | 2 | ... | ... | 2 | 1 | ... | 1 | ... | ... |
| Removal of premaxillary bone | 3 | 3 | 6 | ... | ... | ... | ... | ... | ... | ... |
| Trephining of skull | 3 | ... | ... | ... | 1 | 2 | ... | ... | ... | ... |
| Removal of bone in compound fracture | 3 | ... | ... | 1 | ... | ... | 1 | ... | 1 | ... |
| Subcutaneous division of femur | 1 | 7 | 1 | 2 | 4 | 1 | ... | ... | ... | ... |
| " " tibia | 1 | 1 | ... | 1 | ... | ... | ... | ... | ... | 1 |
| Refracture for deformity | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| Removal of bone for conical stump | 2 | ... | ... | 1 | 1 | ... | ... | ... | ... | ... |
| Imperforate rectum | 1 | 2 | 3 | ... | ... | ... | ... | ... | ... | ... |
| ***Reduction of dislocation—*** | | | | | | | | | | |
| Humerus | 4 | 2 | ... | ... | ... | ... | 1 | ... | 1 | 4 |
| Finger | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... |
| Hip | 2 | 1 | ... | ... | 1 | 2 | ... | ... | ... | ... |
| ***Primary amputation of—*** | | | | | | | | | | |
| Arm | 1 | 1 | ... | ... | ... | 1 | ... | ... | ... | 1 |
| Forearm | 2 | ... | ... | ... | 1 | ... | ... | ... | ... | 1 |
| Hand and fingers | 17 | ... | ... | 1 | 4 | 6 | 2 | 2 | 1 | 1 |
| Thigh | 4 | 1 | 2 | ... | 2 | ... | ... | ... | 1 | ... |
| Leg | 2 | ... | ... | ... | ... | ... | ... | 1 | 1 | ... |
| Foot | 3 | ... | ... | ... | ... | ... | 2 | 1 | ... | ... |
| Toes | 3 | ... | ... | ... | ... | 1 | 1 | 1 | ... | ... |
| ***Secondary amputation of—*** | | | | | | | | | | |
| Arm | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... |
| Forearm | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| Finger | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| Thigh | 3 | ... | ... | ... | 1 | 1 | ... | 1 | ... | ... |
| Leg | 5 | ... | ... | ... | 1 | ... | 1 | 1 | 1 | 1 |
| Toes | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... |
| ***Amputation for disease.*** | | | | | | | | | | |
| Arm | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Forearm | 2 | 1 | ... | ... | ... | 1 | ... | 1 | ... | 1 |
| Fingers | 4 | 1 | 2 | 1 | ... | 1 | ... | ... | 1 | ... |
| Thigh | 13 | 6 | 1 | 1 | 4 | 4 | 3 | 4 | 1 | 1 |
| Leg | 6 | 1 | 2 | ... | 2 | 2 | ... | ... | 1 | ... |
| Foot | 3 | ... | ... | 1 | 1 | ... | 1 | ... | ... | ... |
| Toes | 3 | 1 | ... | ... | 2 | ... | 1 | 1 | ... | ... |

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*continued.*

| Duration of residence after operation. | | | | | | | | Result. | | | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts. 6–9 | Mts 9–12 | Above a year. | C. | R. | U. | D. | |
| 7 | 2 | ... | ... | ... | ... | ... | ... | 9 | 1 | ... | ... | |
| 5 | 5 | 2 | ... | ... | ... | ... | ... | 10 | 1 | 1 | ... | |
| 1 | 1 | 1 | ... | ... | ... | ... | ... | 3 | 1 | ... | ... | Nose 2, hip 1, finger 1. |
| 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 5 | ... | 1 | ? Syncope 1. |
| ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 2 | Traumatic epilepsy 1, compound comminuted depressed fracture 2. |
| ... | ... | 1 | ... | 2 | ... | ... | ... | 2 | 1 | ... | ... | |
| ... | 1 | 6 | 1 | ... | ... | ... | ... | 8 | ... | ... | ... | Double 3. |
| ... | 1 | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | Double 1. |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | 2 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | Tibia 1, humerus 1. |
| ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 | 1 afterwards Littré's operation. |
| 3 | ... | ... | ... | ... | ... | ... | ... | 6 | ... | ... | ... | |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | 2 | 1 | ... | ... | ... | ... | ... | 3 | ... | ... | ... | Complicated with fracture of femur 1. |
| ... | 1 | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | |
| ... | 1 | ... | 1 | ... | ... | ... | ... | 2 | ... | ... | ... | |
| 2 | 7 | 3 | ... | ... | ... | ... | ... | 1 | 3 | ... | ... | Amputation of hand 1, thumb 4. |
| ... | ... | 1 | ... | 1 | 1 | ... | ... | 2 | ... | ... | 3 | Fatal double amputation 1, injury to vessels 1. |
| ... | ... | 1 | ... | 1 | ... | ... | ... | 1 | 1 | ... | ... | |
| ... | ... | 2 | ... | ... | 1 | ... | ... | 3 | ... | ... | ... | Double Pirogoff 1. |
| ... | 1 | 2 | ... | ... | ... | ... | ... | 3 | ... | ... | ... | |
| ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | Also of leg. |
| ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Contused wound. |
| ... | 2 | ... | 1 | ... | ... | ... | ... | 3 | ... | ... | .. | Wound of knee. |
| ... | 1 | 3 | 1 | ... | ... | ... | ... | 4 | ... | ... | 1 | Compound dislocation of ankle 1, suppuration in ankle 1. |
| ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | |
| ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Elbow. |
| ... | 1 | 2 | ... | ... | ... | ... | ... | 3 | ... | ... | ... | Gangrene 1, wrist 1; after erysipelas 1. |
| 2 | ... | 3 | ... | ... | ... | ... | ... | 4 | 1 | ... | ... | Cellulitis 1, necrosis 1, caries 3. |
| 2 | 4 | 9 | 3 | 1 | ... | ... | ... | 17 | ... | ... | 2 | Sarcoma 4, ulcer 2, disease of knee 9, excision 3. |
| ... | 2 | 2 | 3 | ... | ... | ... | ... | 7 | ... | ... | ... | Ulcer of stump reamputation 1, disease of ankle 3, after erysipelas 1. |
| ... | ... | 2 | 1 | ... | ... | ... | ... | 3 | ... | ... | ... | Syme's 2, subastragaloid 1. |
| 1 | 2 | ... | 1 | ... | ... | ... | ... | 4 | ... | ... | ... | |

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TABLE III.—

| SURGICAL OPERATIONS. | Sex. | | Age. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | Under 5 | 5–10 | –20 | –30 | –40 | –50 | –60 |
| **MISCELLANEOUS.** | | | | | | | | | |
| Paracentesis of chest | ... | 2 | ... | ... | ... | ... | 2 | ... | ... |
| „ abdomen | 1 | 1 | ... | ... | ... | ... | 1 | 1 | ... |
| „ spina bifida | 1 | ... | 1 | ... | ... | ... | ... | ... | ... |
| Ophthalmic— | | | | | | | | | |
| Excision of eyeball | 2 | 1 | ... | ... | 1 | ... | 1 | 1 | ... |
| For compound ganglion | ... | 2 | ... | ... | ... | 2 | ... | ... | ... |
| Excision of enlarged bursa | 1 | 6 | ... | ... | 1 | 2 | 1 | 2 | ... |
| For sinuses | 1 | ... | ... | ... | ... | 1 | ... | ... | ... |
| Excision of rib | ... | 1 | ... | ... | ... | 1 | ... | ... | ... |
| Resection of nerve | ... | 1 | ... | ... | 1 | ... | ... | ... | ... |
| Extraction of bullet | 2 | ... | ... | ... | 2 | ... | ... | ... | ... |
| Total | 274 | 196 | | | | | | | |
| | 470 | | | | | | | | |

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*continued.*

| Duration of residence after operation. | | | | | | | | | Result. | | | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Under 4 days. | Dys. 5–13 | Wks 2–4 | Mts. 1–2 | Mts. 2–4 | Mts. 4–6 | Mts 6–9 | Mts. 9–12 | Above a year. | C | R. | U. | D. | |
| ... | ... | ... | 1 | 1 | ... | ... | ... | ... | 1 | 1 | ... | ... | |
| ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Injection of Morton's fluid. |
| ... | 3 | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | |
| ... | ... | ... | ... | ... | ... | 1 | 1 | ... | 2 | ... | ... | ... | |
| 1 | 3 | 3 | ... | ... | ... | ... | ... | ... | 6 | 1 | ... | ... | |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Arm 1. |
| ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | Empyema. |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | Median. |
| ... | 2 | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | |
| | | | | | | | | | 368 | 68 | 2 | 32 | |
| | | | | | | | | | 470 | | | | |

**This table does not include operations performed in the Medical, Ophthalmic, Gynæcological Wards, or out-patient departments.**

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# SUMMARY OF DISEASES.

## GENERAL DISEASES.

*Erysipelas* (admitted as such).—Males 42, females 34. C. 69, R. 2, D. 5. Of these 12 were cellulo-cutaneous. Head or face affected in 18, shoulder 1, breast 1, axilla 1, arm 18, groins 2, lower extremity 35. *Causes.*—Wounds, incised 4; lacerated 4; contused 16; punctured 3; after burn 1; sprain 1; contusions 5; sores or ulcers 8; pustules 2; blisters 2; sinuses 7; after vaccination 1; whitlow 1; suppuration of bruise 3; glandular abscess 1; abscess of calf of leg 1; ascribed to cold, cause doubtful 11. 3 had second attack whilst in the hospital. *Complications.*—Fracture of clavicle 1; scirrhus of breast 1; lymphadenoma 1; phlebitis 1; necrosis of jaw 1, of tibia 1; suppuration in wrist requiring amputation 1; pericarditis 1; pleurisy 1; amputation of leg required ultimately 1.

*Fatal cases.*—Males 4, females 1.

1. Male, æt. 35. Cellulo-cutaneous erysipelas of right lower extremity, commencing six days before in position of bursa prepatellaris. Intemperate. Under treatment 71 days. P.M.—Right pleurisy and fatty degeneration of the liver.

2. Male, æt. 33. Butcher. Cellulo-cutaneous erysipelas of right upper arm and shoulder, following slight pustular eruption 5 days before admission. Intemperate. Lived 1 day. P.M.—Muscles below part affected infiltrated with pus, no marked visceral disease; liver very large and pale.

3. Female, æt. 45. Cellulo-cutaneous erysipelas of right arm, commencing 2 days before admission in region of a lacerated wound. Diarrhœa. Was under treatment 1 day. No P.M.

4. Male, æt. 34. Cellulo-cutaneous erysipelas of right leg, commencing 14 days before admission from a sore heel. Under treatment 15 days. Pleurisy. No P.M.

5. Male, æt. 53. Erysipelas of left axilla following incision of abscess. Eruption appeared 7 days before admission, and he lived 4 days afterwards. P.M.—Pericarditis and pleurisy.

*Pyæmia.*—(See Special Table II.—Pyæmia.)

*Syphilis.*—Males 14, females 62. C. 54, R. 21, D. 1.

1. *Primary.*—Male 1, females 2. Hard sore 3. Secondary symptoms developed in the hospital 2. *Complications.*—Phimosis 1; hæmorrhoids 1; vaginal discharge 1.

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2. *Secondary.*—66. Males 9, females 57. C. 52, R. 14. Manifested by the following symptoms:—Condylomata 39, also of fauces and tonsils 16; congestion of fauces and tonsils 10; ulceration 10; ulceration extending to palate 1; sores about genitals 11; general induration of lymphatic glands 6; inflammatory swelling of inguinal glands 13, marked induration of inguinal glands 8. Eruptions: roseolar 6; papular 2; squamous 15; vesicular 1; pustular 7; brown scars of old eruptions 5; iritis 2. *Complications.*—Phimosis 2; vaginal discharge 39; warts 6; œdema of labia 3; hypertrophy of labia 3; abscess of labium 1; œdema of scrotum 1; hæmorrhoids 2; fissure of anus 2; ulcer of rectum 1. Salivation 2; ac. tonsillitis 1; abscess of neck 2; necrosis of jaw 1; deafness 1; ozæna 1; anæmia 2; pregnancy 3 (miscarriage 1). Scabies 3; pediculi 1; formation of gummata with night pains in the limbs 1.

3. *Tertiary.*—10. Males 4, females 6. C. 6, R. 4. Ulceration, scattered 2; of leg 1; tongue 2; gummata 4; hypertrophy of leg and syphilitic testis 1. *Complications.*—Vaginal discharge 2; bubo 1; abscess of neck 1; deafness 1; hæmorrhoids 1.

4. *Congenital.*—Females 2. R. 1, D. 1. 1. Ulceration of buttock, rickets, marasmus, convulsions. 2. Sores on buttocks and genitals, snuffles, &c.

## LOCAL DISEASES.

### TUMOURS.

*Carcinomata—*

*Scirrhus.—*

*Breast.*—C. 17, R. 4, U. 1, D. 1. 3 unmarried. Breast only affected in 6; amputation performed for each; all cured. In 17 the axillary glands were also affected; in 1 amputation of the breast was performed, and in 13 the glands were also removed; 1 refused operation; in 1 the local disease was too extensive; in 1 there were secondary growths of the liver. The right breast was affected in 12. In 8 there was a family history of phthisis; in 3 of cancer; in 1 of both phthisis and cancer; in 10 there was no history of either; in 1 it was not known. In 3 there was history of abscess of affected breast; 6 of injury; of sore nipple 1; 1 suffering from eczema of nipple; 3 ascribed it to suckling; in the remainder no cause was given. In 4 there was ulceration of the surface. *Complications.*—Erysipelas 4, one of these had supernumerary breasts situated in the axillæ, and after operation had also bronchitis and several epileptiform seizures. Pleural effusion on same side as removal of breast 1. Fatal case, æt. 56, married. Ulcerated growth; extensive involvement of glands; died 46 days after removal; slight local recurrence; nodules in liver.

*Breast* (recurrent).—6. C. 4, R. 2. Primary growth removed 8—9 years, 4 years, 3½ years, 2½ years, 2 years, 9 months before present admission. Recurrence in or near cicatrix 5; cicatrix and axillary glands 1.

*Chest wall.*—Female, æt. 37. Primary growth over sternum, also in the breast and axillary glands; extensive operation followed by erysipelas. C.

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*Cæcum.*—Æt. 56. Growth of 10 weeks' duration in right side of abdomen, R. On admission 6 months after growth was observed, it was excised, with portion of intestine above and below, from ileum to transverse colon. Lived 3 days. P.M.—Slight peritonitis.

*Glands of neck.*—Male, æt. 50. Swelling with great pain in supra-clavicular region on the left side for three months. Died comatose 10 days after admission. P.M.—Large infiltrating malignant mass on left side of the neck; secondary growths in liver and spleen.

*Epithelioma.*—Males 36, females 14. C. 18, R. 17, U. 1, D. 14. *a. Tongue.*—Males 7, C. 3, R. 3, D. 1. Involving the tongue only 2; in 5 the glands under the jaw were enlarged; the floor of the mouth was involved in 1 case; 3 ascribed the disease to rubbing of a tooth; 1 to smoking; in the remainder no cause was assigned. The family history was good in the majority, only 1 giving a history of phthisis and none of cancer. 1 had had syphilis. The disease was too extensive for operation in 2 cases. Operations: disease removed by scissors 1; knife 1; scissors employed after division of the lower jaw 1; scissors and afterwards the galvanic écraseur 2. *Complications.*—Gout 1; locomotor ataxy 1. Fatal, æt. 44; after division of jaw; suppurative cellulitis of floor of mouth; pneumonia; fatty liver.

*b. Mouth.*—Males 2, females 4. R. 5, D. 1. Operation in 4 cases.
*Died.*—Male, æt. 50. Erysipelas; cardiac thrombosis.

*c. Sup. Maxilla.*—Males 2. R. 1, D. 1. Æt. 54. Recurrent growth too extensive for removal. Æt. 70. Removal of part of sup. maxilla and scraping of antrum. Died 50 days later; pneumonia; hypertrophied heart; contracted granular kidneys.

*d. Lip.*—Males 8. C. 6, R. 1, D. 1. Operation performed in each case; glands involved 1.
*Fatal cases.*—Æt. 73. Died 24 days after operation, apparently from exhaustion. No P.M.

*e. Face.*—4 Males. C. 2, D. 2. Removal 2.

*Fatal cases.*—Æt. 21. Commenced in nose, rapidly spreading to face, proving fatal in 9 months from commencement. P.M.—Multiple secondary growths in viscera. Æt. 64. Died 34 days after operation, and 16 after an attack of erysipelas. P.M.—Meningitis.

*f. Ear.*—Males 3. C. 1, R. 2. Recurrent growth 2; removal in each; gland and remainder of ear removed 1.

*g. Neck.*—Female, æt. 65. C. Large, non-ulcerated growth of 3 years' duration, removed from posterior cervical region.

*h. Glands.*—Males 3, female 1. R. 2, U. 1, D. 1. Cervical 3; axillary 1; primary growth 1. Female, æt. 62, gland scraped 1. Died from exhaustion. Abscess along sterno-mastoid and behind the cervical vessels; secondary growth in liver.

*j. Digestive tract.*—Œsophagus: male 1, female 1. D. 2. Gastrostomy in each case. Male lived 2 days, and female 10 days after operation; the former

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dying from shock, the latter from exhaustion. Rectum: Males 3, females 2. C. 1, R. 1, D. 3. Excision of the rectum 3; colotomy 1; no operation 1.

*Fatal.*—Male, æt. 67. Died 43 days after colotomy; exhaustion. P.M.—Growth involving bladder; secondary deposit in liver; fatty heart; fibroid phthisis. Female, æt. 62. Died 3 days after removal of growth and part of glandular mass behind; shock; suppression of urine. No P.M. Male, æt. 55. Died 6 days after excision of rectum. P.M.—Suppuration in the pelvis and along psoas muscle on the right side; œdema of lungs.

*k. Generative organs.*—Males 3, females 5. C. 4, R. 2, D. 2. Males: penis: æt. 47; died 27 days after amputation. P.M.—Acute inflammation of sub-peritoneal connective tissue round the right ureter; acute peritonitis; right pleurisy; periosteal abscess of right tibia. Scrotum: æt. 63 and 37; chimney-sweepers' growth removed. Females: vulva: æt. 52 and 62; growth removed; in the latter case with affected inguinal gland. Uterus: æt. 34 and 50; too extensive for operative interference. Æt. 46; abdominal incision made and uterus examined; growth extensive; uterus quite adherent and fixed. Lived 51 days after. P.M.—Chronic peritonitis.

*Cylindroma.*—Male 1, female 1. R. 2. Female, æt. 24. Was in the hospital, 1883; colotomy performed. Male, æt. 48; relieved by scraping.

*Sarcoma.*

*a. Face.*—Male, æt. 67. Small; noticed 7 weeks; right eyebrow; removed.

*b. Head.*—Male, æt. 17 months. Large; of vault of skull, displacing the right eye. No symptoms; relieved. Æt. 31; large; 12 months' growth; right temporo-maxillary region; tumour encapsuled; removed with greater part of the zygoma; cured.

*c. Jaw.*—Upper: Male 1, females 4. C. 3, R. 2. Male, æt. 31. Swelling noticed 14 months; growth from alveolar border of jaw into antrum; removed with bone involved. Females, both æt. 57. The disease was too extensive for operation. Æt. 36 and 54. Growth which had been in existence 18 months and 2 years respectively, was removed with portion of bone involved. Lower: Males 3, female 1. C. 3, D. 1. Æt. 62. Epulis of 4 months' growth removed when readmitted. Æt. 45. Recurrent round-celled growth removed with bone involved. Erysipelas followed the operation; cured. Female, æt. 51. Admitted for necrosis of jaw; symptoms for 4 months; died 28 days after admission in a septicæmic condition; no operation. P.M.—Extensive growth on periosteum of whole lower jaw; secondary infection of the cervical, mediastinal, bronchial, and iliac glands; and of liver; cyst of kidney.

*d. Tonsil.*—Æt. 54. Extensive growth of tonsil and glands on the right side of head; duration 4 months; relieved; ultimately died in hospital, 1885.

*e. Chest wall*—Female, æt. 33. Melanotic growth with affection of glands in the axilla, 4 inches below and to the outer side of the right nipple; rudimentary nipple and congenital absence of breast on right side; disease removed; cured.

*f. Abdominal wall.*—Æt. 25. Lump the size of a hen's egg above and to the inner side of right antero-superior spine; removed antiseptically; peritoneum adherent and requiring to be peeled off; no bad symptoms afterwards; cured.

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*g. Pelvic region.*—Males 3. C. 1, R. 2. Æt. 32; noticed 5 months. Æt. 64; noticed 3—4 years; very large growths in each of left ilium; relieved. Æt. 43; fibro-sarcoma of sacral region noticed 5 years; removed; erysipelas; cured.

*h. Upper extremity.*—Male, æt. 47. Recurrent growth of the thumb; removal of growth; cured.

*j. Lower extremity.*—Femur: Males 3. C. 1, R. 1, D. 1. Æt. 20; enlargement of lower end of femur noticed for 1 month; diagnosis uncertain; palliative treatment; relieved. Readmitted a month later and thigh amputated; cured. Æt. 67; enlargement of lower end of femur noticed for 4 months; amputation of thigh; died from shock. Tibia: male, æt. 47; periosteal growth of right tibia noticed 7 months; amputation of thigh; lived 11 days afterwards. P.M.—Secondary growths in femoral glands and lung. Æt. 46; pulsating tumour of the bend of the knee; removed by gouging; growth myeloid; amputation of thigh 3 days later; cured.

*k. Breast.*—C. 2, R. 1, D. 1. Æt. 64; recurrent growth, noticed 2—3 weeks; was in hospital last year; two operations were required; after the second she had an attack of erysipelas; cured. Æt. 39; cystic growth of (?) 6 weeks' duration; removal; cured. Æt. 41; cystic growth of both breasts; swelling noticed in left 13 years; for 8 years some affecion of each; amputation of the right performed; she refused to have the left removed; relieved. Æt. 45; cystic tumour of each breast noticed for 6 weeks. Died from bronchitis 4 days after double amputation. No P.M.

*l. Testes.*—C. 4. Æt. 21, 35; enlargement noticed, 4½ months. Æt. 36, 51; 9 and 12 months respectively. Castration in each case. (Æt. 21, ultimately died from recurrence 9 months after operation. See 'Lancet,' March 7th, 1885.)

*m. Lymphatic glands.*—C. 2. Æt. 35; cervical glands, noticed for 4½ months; removed. Æt. 67; noticed 6 months; inguinal region; removed.

*Ovarian disease.*—C. 6, R. 3, U. 1, D. 5.

*Relieved.*

1. Æt. 47, married, 1 child, 2 miscarriages. Soft swelling above pubes, noticed 2 years ago; painless slow growth. Large multilocular cyst; refused operation. Was in hospital 4 days.

2. Æt. 54, married, 2 children. Swelling commenced in left lower abdomen 2 years ago. Some loss of flesh. Occasional gushes of watery discharge from vagina; cramp in legs; multilocular cyst reaching to above the umbilicus; refused operation. Was in hospital 11 days.

3. Æt. 40, married, 1 child, æt. 9. Pain in lower abdomen, gradually followed by swelling and accompanied by some vomiting for 7 months. Central tumour, composed of somewhat tense cystic growths in lower abdomen. Operation not recommended. See Case 14. Was in hospital 34 days.

*Unrelieved.*

4. Æt. 35, single. Some swelling noticed in left side of abdomen since a blow 7 years ago; more rapid increase for 4 months. Cystic tumour in left side of abdomen. Patient refused to remain for more than 1 day.

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*Cured.*

5. Æt. 32, single. Swelling of abdomen for 6 weeks; increase more rapid during last 14 days; no pain. Multilocular cyst of the right ovary removed; no adhesions; highest temp. 100·6° on evening of day following operation. Left 26 days after operation.

6. Æt. 29, single. Swelling in lower abdomen with occasional pain for 2 years. Solid tumour attached to right broad ligament, together with both ovaries, which were cystic, removed; there were few adhesions. Slight cystitis, probably due to catheterism, followed. Highest temperature was 100·6° on third day. Left hospital 53 days after operation.

7. Æt. 48, married, 2 children. Increase in size of the abdomen noticed for 2 years. Bearing-down pain for 12 months; more recently, constipation, painful and frequent micturition. Large cyst removed after separation of numerous and strong adhesions to omentum, intestine, uterus, and broad ligament. Localised suppuration in wound followed, keeping the temperature irregular for some weeks; it rose to 103·4° 34 days after operation. Discharged 85 days after operation.

8. Æt. 31, married, 2 children, youngest 8 months old. Swelling noticed in upper part of right side of the abdomen for 5½ months. Had occasional catching pains in right side. Multilocular cystic growth, separated from firm adhesions to omentum and ascending colon, removed. The pedicle appeared to consist of fibro-cellular tissue and was traced into pelvis. The right ovary was healthy, the left appeared to be bound down by adhesions and was represented by a softish mass. The highest temperature was 102·8° at 8 o'clock on the morning following operation. Left the hospital 23 days after operation.

9. Æt. 28, married, no child, no miscarriage. More or less swelling of abdomen noticed since 10 years of age, being especially marked during the last 9 months. Has had occasional aching pains. Large unilocular cyst, adherent to large intestine, abdominal wall, and structures in the pelvis, apparently situated in the left broad ligament, too firmly adherent to admit of removal, drawn forward and secured to abdominal wound, the portion outside being removed. The highest temperature after operation was 101·4° at 8 a.m. of the day following. Discharge continued until 8 days after the operation. She was in the hospital 98 days.

10. Æt. 67, married. Ovariotomy was performed for a multilocular cyst in 1880. She first noticed swelling 11 days before admission, her attention being directed to it by pain in the groins. A unilocular cyst, from which 5 pints of fluid had been drawn, was removed; no adhesions. There was no rise of temperature after operation, although slight catarrh of bladder followed the use of catheters. She left 25 days after the operation.

*Died.*—No operation.

11. Æt. 42, married, no child, no miscarriage; catamenia ceased 6 years ago. Swelling for 2 years; fullness after meals; shooting pains in epigastrium; loss of flesh; anorexia; constipation; difficulty in micturition; occasional diarrhœa; swelling of legs. Was tapped 14 days before admission; 3 quarts of rather offensive fluid drawn off. After admission, apparently malignant disease in pelvis, dropsy, diarrhœa, scanty urine, low delirium. Ulceration of rectum could be felt behind a hard tumour. No P.M.

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12. Æt. 45, married, no child, no miscarriage. Severe pain, lancinating, in lower abdomen 7 months ago. Swelling for 4 months. After admission she had bronchitis; exploratory puncture was made per vaginam about a fortnight before she was transfered to surgical ward. Somewhat tense cyst in lower abdomen; evidence of suppuration, bronchitis, much offensive diarrhœa, no vomiting, exhaustion. P.M.—Double suppurating ovarian cysts, the contents of which had escaped into the peritoneal cavity, peritonitis, old adhesions of intestines, and recent flaky lymph.

*After operation.*

13. Æt. 33, married, 1 child, æt. 4. Three months after birth of child, small tumour noticed in right lower abdomen, gradual growth, two months ago severe attack of pain in region of tumour, with difficulty in micturition; suffers from constipation. Multilocular tumour connected with right ovary removed, some firm adhesions, one small suppurating cyst. The temperature, which rose to 102·6° on the day following operation, gradually returned to normal, there being no rise after the seventh day. She died suddenly on the 11th. P.M.—Thrombosis of pulmonary artery; pulmonary apoplexy; no peritonitis.

14. Æt. 40, married (see Case 3). Nausea, sickness, and continual pain since last admission. Multilocular cyst, which had contracted firm adhesions to omentum and intestines, separated from pedicle (right ovary). Vomiting, abdominal pain, followed the operation, and the patient died 3 days later, the temperature having steadily risen from 98·8° to 107·8°, and pulse to 160. No P.M.

15. Æt. 53, widow, 5 children. Five months swelling of the abdomen with sharp pains in left side, rapid increase for 3 weeks. Weakness and slight emaciation. On admission, considerable enlargement, no definite outline of tumour, marked thrill, tenderness. Tumour with colloid contents removed, some escaped into peritoneal cavity from rupture of the softened wall of the cyst. Multiple nodular growths were seen at the back of the uterus and in the omentum. Lived 3 days, symptoms of peritonitis, pulse gradually increased in rapidity to 164, and temperature rose to 107° before death.

*Myo-fibroma of uterus.*—C. 2, R. 3, D. 2.

*Cured.*

Æt. 42 and 50. Large fibroid polypi projecting into the vagina. Removed by écraseur.

*Relieved.*

Æt. 30, 33, 52. Operation not advised.

*Died.*

Æt. 42. Large fibro-cystic tumour removed with supra-vaginal portion of uterus and ovaries by abdominal section. Patient died from peritonitis 2 days later. Æt. 30. Abdominal section performed with view of removal of uterus, but on examination this was considered inadvisable. Patient died 2 days later from shock.

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## CIRCULATORY SYSTEM.

*Aneurism.*—Males 4, females 2. C. 3, R. 3.

*a. Innominate.*—Female, æt. 65, widow. Small aneurism at root of neck on right side, symptoms somewhat vague and spread over a period of 3 years, diminished in size under general treatment. No cardiac disease.

Female, æt. 40. Swelling noticed 12 months. Aneurism on right side extending to lower border of the thyroid cartilage, dulness over inner third of clavicle. Operation refused.

*b. Axillary.*—Æt. 40. Painter. History of phthisis in the family, and of syphilis and lead palsy in the patient. Was operated on by ligature of the vessel above and below after failure of digital compression (see Hosp. Report, p. 462). The lead palsy was afterwards recovered from, and patient felt nothing wrong with the arm until a few days before admission. It was then the size of a hazel nut and there were bead-like dilatations of anastomosing branches. Refused operation.

*c. Palmar.*—Æt. 20. Potman. Followed wound of palm received a month before, size of filbert. Cured by incision of sac and ligature of ends of vessel.

*d. Popliteal.*—Male, æt. 31. Labourer. History of rheumatic fever, none of syphilis. Six months' œdema of leg and occasional "rheumatic" pain; 3 months' swelling. Swelling in lower part of left popliteal space, systolic bruit and thrill. Digital compression of the femoral for 9½ hours cured the aneurism. (He stated that he had been in St. George's Hospital, where intermittent compression of the artery by means of a tourniquet had produced some diminution of pulsation.)

Æt. 29. Clerk. History of syphilis. Pain in left popliteal region, with swelling for 12 months. Aneurism the size of a walnut, thrill and bruit. Digital compression tried for 6½ hours without success, femoral artery ligatured successfully 7 days later.

## DIGESTIVE SYSTEM.

*Hernia.*—(See Special Table I—Hernia.)

*Fistula in ano.*—Males 16, females 5. C. 18, R. 3. In 4 history of previous fistula, 5 family history of phthisis, 1 of fatal chest mischief, 2 had symptoms of phthisis. The cause was in most instances doubtful, 1 (?) worms, 1 due to kick, in one case a fish-bone was found in the fistula, in one there was a valvular fold of mucous membrane partly closing the rectum. *Complications.*—Hæmorrhoids 1, stricture of urethra 1, inguinal hernia 1, hydrocele 1, contracted erysipelas after operation 1.

*Intestinal obstruction.*—D. 4. Males 3, female 1.

1. Male, æt. 59. Gardener. Notes imperfect; symptoms for 5 days, abdominal section, lived 1 day. P.M.—Recent peritonitis of some coils of small



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intestine. Marked constriction of intestine of nine feet above the ileo-cæcal valve, caused by omentum; this had been cured by the operation.

2. Male, æt. 51. Plasterer. Six days before admission noticed swelling of small size above the umbilicus in the middle line, and had slight diarrhœa, next day vomiting and increase of the pain, for 4 days constipation, and frequent vomiting. Abdomen somewhat distended and tympanitic, tenderness chiefly to the right of the umbilicus and over a small swelling feeling like omentum, in the situation described, no other resemblance to hernia. General condition bad. Abdominal section, peritonitis with pus and thin flakes of lymph, hernia of small size released. Died next morning. P.M.—Peritonitis, congestion and œdema of the lungs.

3. Female, æt. 53, married. History of reducible femoral hernia for 7 years. Four days before a slip in going downstairs, followed in 2 days' time by symptoms. Violent pains in right side of the abdomen, vomiting, constipation. On admission she was suffering from shock and subnormal temperature. Symptoms continued, and right colotomy was performed 4 days after admission and 1 before death. She did not rally fully from the operation. P.M.—Intestines generally redder in tint than normal, no peritonitis; lungs deeply congested posteriorly.

Male, æt. 4 months. Symptoms of intussusception for 2 days. Inflation tried at 5 p.m., under chloroform. No improvement followed, and at midnight abdominal section was performed, the intestine being restored to its proper position. The child lived 1 hour, passing a large motion, and then died in a condition of collapse. P.M.—Some recent peritonitis. The whole of small intestine and cæcum of a dark red colour. In the ascending colon, about 2½ inches from the valve, is a defined border to the redness, apparently the limit of previously intussuscepted bowel, no definite upper limit. Peyer's patches much thickened; scattered throughout the bowel are some patches of quite superficial slough, which have become separated and are lying loose in large quantities in the colon and cæcum.

## GENITO-URINARY SYSTEM.

*Hydrocele.*—C. 6. Right side 4. Previous tappings 1, 2, 3, 4, 5, and 7 times respectively, in one case iodine had been injected. During residence 4 were tapped and injected with iodine, in two cases accumulation of inflammatory fluid was afterwards removed by tapping, in 2 the hydrocele was incised and allowed to close by granulation. In 1 the hydrocele was incised without previous tapping. The injection of iodine was followed by epididymitis in one case, in one case serious symptoms of shock ensued.

*Retention of urine.*—Males 23. C. 18, R. 2, D. 3. Thirteen due to stricture of the urethra, 6 to enlarged prostate, 3 to phimosis, 1 to head injury. *Treatment.*—The majority were in the first instance treated by warm bath, and afterwards by the catheter, 5 required the catheter only. The following operations were performed: perinæal section 2, perinæal puncture 2, suprapubic aspiration 1, internal urethrotomy 3, forcible dilatation and afterwards internal urethrotomy 1, incision for phimosis 2, circumcision 2. *Complications.*—Hæmaturia 4, cystitis 3, urinary fistulæ, extravasation of urine 1, phosphatic

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calculi 1, inflammation of shoulder-joint 1, rigors 7 (see Pyæmia), pneumonia 1, pyæmia 2. Fatal 3. Æt. 42. Stricture 6 years, incomplete retention 4 days, perinæal puncture, pyæmia. P.M.—Periprostatic abscess, cystitis, pyæmia. Æt. 65. Stricture 6 years, incomplete retention 3 weeks, enlarged prostate, hæmorrhage, false passage, catheters were passed, rigors, inflammation of shoulder-joint, cystitis, exhaustion. No P.M. Æt. 72. Difficulty in micturition 20 years, complete retention 18 hours, cystitis, perinæal puncture, rigors. P.M.—Enlarged and tunneled prostate, chronic cystitis, phosphatic calculi, pyæmia.

*Stricture of urethra.*—33. C. 24, R. 6, D. 3. Traumatic 2, doubtful 2, following gonorrhœa 29. *Complications.*—Gonorrhœa 1, retention 1, retention and perinæal abscess 2, urinary fistula 3, epididymitis 2, hæmaturia 1, hæmorrhage from urethra 2, cystitis 4, cystitis and renal disease 2, renal disease 1, rigors during treatment 7, syphilitic eruption 1. *Treatment.*—Interrupted catheterism 14, continued 1, treatment refused 2, no catheter passed 2; operations: internal urethrotomy 7, perinæal section 4, perinæal puncture 2, forcible dilatation of stricture 1. P.M. of fatal cases.—Æt. 64. Inflammation of urethra and bladder, scrotal fistula, surgical kidneys. Æt. 43. Stricture, urethritis, cystitis, pyelitis, phthisis, right pneumothorax (no catheter was passed in this case as rigors followed the attempt to do so). Æt. 64. Stricture, enlarged prostate, cystitis, pyelo-nephritis, ulcerative endocarditis of mitral valve, emphysema of the lungs.

*Extravasation of urine.*—8. C. 2, R. 1, D. 5. Successful cases, each following stricture: 1 had urinary fistula, 1 uric acid calculi, 2 attacks of erysipelas, in each perinæal section was performed, in 1 with incision of prepuce.

*Fatal cases.*—Each with stricture (1 traumatic), swelling noticed in 3 for 2 days, 1 for 1 day, 1 for 6 hours. Perinæal section in each. 1 had erysipelas afterwards. P.M. examinations.

Æt. 60. Sloughing of scrotum, chronic cystitis, hypertrophy of bladder, suppurative nephritis.

Æt. 64. Hypertrophy of bladder, abscess of prostate, gall-stones, acute pneumonia on the right side, enlarged kidneys and spleen.

Æt. 50. Sloughing of scrotum and cellular tissue in lower abdomen, chronic cystitis with hypertrophy, commencing granular kidneys.

Æt. 52. Chronic urethritis and cystitis, chronic and acute renal disease with pyelitis.

Æt. 57. Sloughing of scrotum, chronic urethritis and cystitis, pyelitis and contracted granular kidneys.

*Calculus vesicæ.*—Males 12. C. 11, R. 1. Symptoms noticed from 14 days in one case to 18 years in another. Operations: lateral lithotomy 4, lithotrity 7, operation refused 1, internal urethrotomy previous to lithotrity 1. Of the patients, æt. 6, 8, 8, 29, for whom lithotomy was performed, 1 had congenital hernia, 1 had old amputation of the thigh, calculi all oxalate of lime. After the operation 1 had slight secondary hæmorrhage, 1 effusion in knees and ankle, 1 cystitis and an attack of erysipelas. Of those for whom lithotrity was performed 1 required 3 operations and 1 required 2. One had been previously operated on. The ages varied from 19—76. Character of stone chiefly uric acid 2, chiefly

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phosphatic with some uric acid 2, uric acid and urate of ammonia 1, almost entirely phosphatic 2. *Complications.*—Hydrocele 2, enlarged prostate 2, cystitis 2; after operation retention of urine, cystitis, and rigors 1, cystitis 2 (in addition to those mentioned), phlebitis of deep veins of legs 1. The patient who refused operation had had symptoms of stone for 10 years.

*Calculus urethræ.*—C. 4. Æt. 4 (2), 6, 74. Each removed by perineal incision. Æt. 74. Admitted 2 months after lithotrity. Æt. 6. Operation for removal, followed by cystitis, only cured after free drainage by lateral incision into the bladder.

*Gonorrhœa* (admitted as such).—Females 48. C. 38, R. 10. *Complications.*—Sores the result of discharge 4, warts 4, œdema of labia 2, abscess of labium 3, sinus of labium 2, adenitis of inguinal glands 5, bubo 3, endometritis 1, ulceration of os uteri 1, dysmenorrhœa 1, chronic ovaritis 2, hæmorrhoids 4, fissure of anus 3, fistula in ano 1, rheumatism 2, erysipelas 1, anæmia 1, evidences of old syphilis 4, urethral caruncle 1, pregnant 1, scabies 1, pediculi 1.

*Soft Sore.*—Males 12, females 30. C. 34, R. 8. Phagedænic: males 6, females 2. *Complications.*—Phimosis 7, paraphimosis 2, hæmorrhage 3, gonorrhœa 19, warts 1, œdema of labia 5, adenitis of inguinal glands 15, bubo 5, tonsillitis 2, abscess of neck 1, hæmorrhoids 1, subovaritis 1, pregnant 2 (miscarriage 1), stainings of syphilitic eruptions 2, purpura 1, contracted scarlatina 1, acne 2, pediculi 1.

## DISEASES OF THE LOCOMOTORY SYSTEM.

*Of hip-joint.*—Males 24, females 24. C. 24, R. 19, D. 5. 1st stage.—Males 5, females 5. C. 9, R. 1. Chronic: males 14, females 13. C. 8, R. 14, D. 5. Rheumatism: male 1, females 2. C. 3. Rheumatoid arthritis: male 1, female 1. C. 1, R. 1. Gonorrhœal rheumatism: male 1, C. Old excision: males 2, females 2. With abscess or sinus: C. 1, R. 3. Hysterical: female 1, C. *Causation.*—Injury 19; struma 7; hysteria 1; rheumatism 3; rheumatoid arthritis 2, gonorrhœa 1. No known cause 15. Family history of phthisis 13; cancer 1; lameness in other members of the family 4 (hip disease 2); meningitis 10; good 19; not given in the remainder. With displacement of the head 4; abscess 6; sinuses 5, ankylosis 1. *Complications.*—Congenital cataract and nystagmus 1; strabismus 1; glaucoma 1; strumous ulceration of cornea 1; old ankle-joint disease 1; enlarged glands 4; phthisis 3; measles 2; scarlet fever and pyonephrosis 1; fracture of tibia and fibula 1; communication of abscess with rectum 1. Examination under anæsthetic 11; aspiration of abscess 2; incision of abscess 5; incision of joint 2; excision 7; incision of sinuses 6; removal of sequestra from femur 1.

*Fatal cases.*—Male, æt. 20. Carpenter. Chronic disease of right hip, abscesses, communication with rectum. Excision of joint. Death from hectic and lardaceous disease 277 days after admission. Æt. 20. A porter. Disease of left hip for 12 months. Abscess of hip. Excision. Abscess of left thigh opened. Bedsores. Died 39 days after operation. P.M.—Pulmonary tuberculosis; acute peri-

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carditis; renal calculus; congestion of intestine. Æt. 26. A labourer. Symptoms of disease in right hip for 6—7 months. Abscess. Aspiration. Antiseptic incision. He then developed cough and signs of lung mischief. In hospital 235 days. P.M.—Primary tuberculosis of right hip-joint; tubercle of lungs, spleen, kidney; amyloid disease of liver and spleen. Female, æt. 1 year. Disease on left side with abscess, which followed a fall received a month before admission. Incision and examination of joint, diarrhœa, collapse of lung. Female, æt. 17. Readmission. Fall 2 years ago, followed by abscess of right hip. Aspirated when under care previously. Now sinuses with continuous discharge. Excision. Epileptiform seizures came on about 2 months later, with night sweats and unequal pupils. There were also rhonchi in the chest, these being most evident at the apices. Died 295 days after admission. No P.M.

*Of knee-joint.*—Males 35, females 37. C. 38, R. 33, U. 1. *Incipient.*—Of the right knee 2, left 4. *Causation.*—Injury 3; hæmophilia 1; syphilis 1; doubtful 1. *Complications.*—Puerperal mania 1; suppuration of joint 2; aspiration of joint 1; amputation of thigh 1. *Chronic.*—Males 22, females 21. C. 23, R. 20. Of the right knee 22; left 21. Family history of phthisis 7; cancer 1; hip disease in father 1; not given 5; in remainder apparently good. *Causation.*—Ascribed to injury 11; scarlet fever 1; rheumatism 1; puerperal 2; scrofula 1; cold 3; in the others no cause suggested. *Complications.*—Sinuses 3; abscess of joint 5; ulcer of groin 1; varicose veins 1; lupus of face 1; scarlet fever 1; measles 1; hæmorrhage after amputation requiring ligature of femoral 1. *Operations.*—Aspiration of joint 2; examination and improvement of position under chloroform 4; incision 3, 1 partial excision; excision 9; amputation 10, 2 of these after excision. *Anchylosis.*—Females 6. C. 6. Of right knee 3; left 3. Ascribed to rheumatism 4; acute inflammation of joint 1, ? 1. Family history of phthisis 1; 1 knee bent under anæsthetic. *Old excision.*—Males 3, females 4. 6 admitted for the application of apparatus; 1 for amputation of thigh *Rheumatoid.*—Males 3, females 3. Rheumatism 2; rheumatoid arthritis 2, gonorrhœal 2 (males); 4 of left knee; 1 of the right, and 1 of both knees. *Loose cartilage.*—Males 2, females 1. Left 2; right 1. Objections to removal in each case. *Hysterical.*—Female, æt. 30. Following slight injury.

*Of ankle-joint.*—Males 10, females 4. C. 9, R. 4, U. 1. Acute 3; chronic 6; anchylosis 3; gonorrhœal rheumatism 2. 1 amputation for suppuration in the joint in a boy with tubercular history; 1 excision of partial character, from incision made across the front of the joint; 2 amputations for chronic disease; 1 tenotomy of tendo Achillis in a case of fibrous anchylosis with contracted tendon.

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# SUMMARY OF INJURIES.

## GENERAL INJURIES.

*Burns.*—Males 17, females 23. C. 20, R. 5, D. 15. General 9; neck 1; face 4; conjunctiva 1; face and chest 2; face and upper extremity 1; head, neck, hand 1; upper extremity 2; upper extremity and chest 9; trunk and lower extremity 4; lower extremity 6. *Causes.*—Fall in the fire 4; wearing apparel catching fire 26; explosion or upset of lamp 4; turpentine on the arm catching fire 1; setting the bed on fire 1; molten metal 1; explosion of gas 2.

*Treatment* (primary).—Carron oil 34; carbolic oil 1; olive oil 1; terebine and oil 1; Ung. Flavæ 1; Cat. Lini. 1; Lot. Sodæ Chlor. 1.

*Complications.*—Epileptic 4; measles 1; delirium ending in lunacy 1; lunacy 1.

*Fatal.*—Male, æt. 10 months; convulsions. Females, æt. 4, 4, 31, 58; shock or collapse. Females, æt. 65, 32, 36, 14 months, males, æt. 5 months, 1 year 10 months, exhaustion. Females, æt. 5, 7, after erysipelas (q. v.). Male, æt. 34, an epileptic, after 23 days, albuminuria and pericarditis.

*Scalds.*—Males, 29, female 17. C. 40, R. 2, D. 4. General 7; face and head 2; face and arm 1; face, arm, and chest 2; mouth and fauces 6; upper extremity 3; chest 3; chest and upper extremity 9; lower extremity 12; lower extremity and trunk 2. *Causes.*—Fall into hot water 5; sucking the kettle 6; escape of steam 1; sitting in hot bath 1; upset of vessel containing hot water 33.

*Complications.*—Scarlet fever 3, erysipelas 2.

*Primary treatment.*—Carron oil 35; Ol. Olivæ 2; Cat. Lini. 3; steam kettle and tent 6; in 1 case tracheotomy.

*Fatal.*—Males, æt. 4, 2 years 6 months, 3 years 3 months; shock or collapse, æt. 3 years 6 months, after tracheotomy for œdema of glottis; collapse of lungs.

## LOCAL INJURIES.

### HEAD.

*Scalp wounds.*—Males 34, females 16. C. 47, R. 1, D. 2. Exposed bone in 10; hæmorrhage marked 1; epileptic 1; slight concussion 5. *Complications.*—

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Wounds of ears 1; arm 1; leg 1; throat 1; fracture of radius 1; subconjunctival hæmorrhage 1; bleeding from ear 1; strabismus 1; contusions of chest 1; of leg 1; vomiting 1; slight shock 2; erysipelas 2; delirium tremens 2; 1 bullet wound.

*Fatal cases.*—Male, æt. 54. Lacerated wound over frontal bone, died 34 days later. P.M.—Phthisis and tubercle of intestine. Wound healed.

Female, æt. 76. Contused wound over back of head, fracture of left radius and ulna, diarrhœa, lived 25 days. P.M.—Chronic bronchitis and emphysema.

*Concussion.*—Males 43, females 9. C. 50, R. 2. Irregularity of pupils 4; hæmorrhage from the ear 3; epistaxis 7; vomit contained blood in 5; subconjunctival hæmorrhage 4; scalp wound 7; wound of chin 1; face 1; ear 1; contusion of ankle 1; fracture of rib 1; rupture of membrana tympani 1; pleurisy and bronchitis 1; bronchitis 1; marked shock 2.

One severe case: motions passed involuntarily, twitchings of muscles of face, later albuminuria, bedsore, bronchitis.

*Fractures of the skull.—The vault.*

*Simple.*—Males 4, females 2. C. 5, D. 1. 5 depressed.

*Fatal.*—Female, æt. 1 year 6 months. Run over. Lived a few hours. Fracture running across the vertex and extending in various directions. Softening and contusion of brain-substance.

*Compound.*—Males 2, female 1. C. 3. Males, æt. 38, 45, in the frontal region. Female, æt. 39, in occipital region. All fissured.

*Compound depressed.*—Male, æt. 11, C. Fall from height. Frontal bone. No symptoms. No optic neuritis.

*Compound comminuted.*—Railway men, æt. 18, 21. Knocked down by engine. Injuries extensive. Both trephined. Lived 2 days and 6 hours respectively. In 1 no P.M., in the other, æt. 21, fracture limited to vertex. Extravasation of blood and contusion of brain.

*Base of skull.*—Males 11, females 4. C. 12, D. 3.

*Complications.*—Facial paralysis 2; convulsions 1; fracture of clavicle 2; lower jaw 1; clavicle, inferior maxilla, and radius and ulna 1; of radius on each side, the right compound; separation of the bones of the face; optic neuritis and strabismus 1.

*Died.*

Male, æt. 26. Schoolmaster. Transferred from Ophthalmic, where he had been admitted with ruptured eyeball, which was excised. Comminuted fracture of inner wall of orbit into nasal cavity and into anterior fossa of skull. Injuries caused by fall from bicycle; high temperatures, restlessness; meningitis. Lived 4 days. No P.M.

Male, æt. 86. Found lying in the road. Lived 2 days. Unconscious, stertor, dilatation and fixity of pupils, left the larger, some hæmorrhage from left ear and mouth, pulse 126, hard, irregular. Did not recover consciousness. P.M.—Skull thin, 2 fractures, 1 involving the margin of the foramen magnum on the

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right and running up the occipital bone for 2 or 3 inches. The other was on the left, and began in the jugular sinus and ran upwards across the petrosal part of the temporal bone. Considerable hæmorrhage beneath the meninges covering the right side of the cerebellum, and bruising of the latter.

Female, æt. 47. Fell down 18 steps, alighting on her head. Lived 6 hours. Completely comatose. P.M.—Fracture of skull in left temporal fossa, running into orbit and into groove of middle meningeal artery.

## INJURIES OF THE ABDOMEN, CHEST, SPINE, AND PELVIS.

*Injuries of the abdomen.—Wounds.*—Males 3. C. 2, D. 1. Penetrating 1, fatal, æt 21. Above right Poupart's ligament made by shaft of coster's barrow; protrusion of intestine. Lived 1 day. P.M.—Bruising of small intestine; ? acute septicæmia.

*Contusions.*—Males 15, females 2. C. 12, R. 2, D. 3. *Complications in non-fatal cases.*—Retention of urine and collapse 1; collapse 1; vomiting of blood 1; vomiting only 1; hæmaturia 1; slight melæna 1; hæmaturia and peritonitis 1.

*Fatal.*—Male, æt. 2 years 8 months. Run over by a coal cart. Lived a few minutes. P.M.—Rupture of liver and spleen; hæmorrhage into peritoneal cavity. Male, æt. 43. Fall on abdomen, shock, collapse, jaundice, peritonitis, effusion, paracentesis. Lived 26 days. P.M.—Right pyonephrosis; left hydronephrosis, with calculi; acute peritonitis; right pleurisy with effusion. Male, æt 4½. Kick from pony. Contusion of abdomen and thigh; shock; hæmatemesis. Lived 2 days. P.M.—Rupture of small intestine 26 inches above ileo-cæcal valve; extravasation of blood into mesentery; peritonitis.

*Fracture of the ribs.*—Males 16, females 5. C. 17, R. 2, D. 2. Marked shock 2; cough 2; emphysema 3; emphysema and bronchitis 1; bronchitis 2; hæmoptysis 1; hæmoptysis and pneumonia 1; pneumonia 2; bronchitis, pneumonia, and hæmo-pneumothorax 1. *Complications.*—Scalp wound 1; wound of leg 1; contusion of eye 1; of arm 1; measles 1.

*Fatal.*—Female, æt, 76. Lived 9 days. P.M.—Fracture of 7th, 8th, 9th, 10th, and 11th ribs on left side. Chronic interstitial nephritis.

Male, æt. 53. Knocked down by tram. Lived 2 days. Suffering from bronchitis, which increased in severity. P.M.—Fracture of 6th, 7th, 8th ribs through cartilages, 8th, 9th, 10th, outside their angles; rupture of liver and spleen; general contusions.

*Fracture of spine (? hæmorrhage).*—Male, æt. 60. C. In hospital 174 days. Struck in the neck by the wheel of a cart. Pale, almost pulseless; complete loss of power and sensation in all his limbs; loss of sensation in the trunk as high as the second intercostal space; respiration diaphragmatic; slight priapism; motions passed involuntarily; retention; catheterism. Twelve days before leaving, was able to sit up in a chair, and with assistance walk. The left leg is dragged and

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the movements of the other jerky. Sensation improved along course of right ulnar nerve, right side of trunk below 3rd rib, and in patches over right leg. The arms are rigid, but there is apparently no power in them, and are usually retained flexed, extension causing pain. Knee jerk brisk in both legs. Still loss of control over rectum; slight amount of pus in urine, which is not offensive; the bladder is still washed out.

*Fractures of the pelvis.*—Males 6, females 1. C. 3, D. 4. Fracture of the ilium 1.

*Fatal.*—Male, æt. 7. Tramcar accident. In addition to fracture of the pelvis, there were extensive scalp wounds; fracture of several ribs with emphysema of chest wall; compound fracture of femur communicating with large lacerated wound in the perinæum; collapse. Died next day.

Male, æt. 40. Extensive fracture; separation of right sacro-iliac synchondrosis; fracture of ilium, also through pectineal eminence into thyroid foramen; extensive post-peritoneal hæmorrhage. Lived 4 hours.

Male, æt. 5. Run over by van. Collapse; no evident injury to viscera; fracture of the os innominatum.

Male, æt. 50. Railway accident. Complete crushing of left thigh and leg as high as pelvis; fracture of left side of pelvis; wound of abdominal wall; crush of left hand; compound fracture of left forearm. Lived 1 hour.

## INJURIES OF THE UPPER EXTREMITIES.

*Wounds.—Arm.*—Males 4. Cured 4. 1 injury to axilla by spike; 1 contused wound with injury to vessels; gangrene, required amputation in 3 days.

*Forearm.*—Males 12, females 6. C. 16, R. 2. Lacerated 13; wounds of arteries: radial 8; ulnar 1; wound of tendon 2; cellulitis 2; erysipelas 1.

*Hand.*—Lacerated and contused wound followed by sloughing 1; lacerated with general contusions 1.

Injuries to right upper extremity 20. Left 8.

*Dislocations—*

*Humerus.*—Males 5, females 2. C. 6, R. 1. Right side 4. All subcoracoid; reduced by manipulation. Previous dislocations 1, in this case there was a history of double dislocation of the shoulder. One had been displaced for 3 and another for 5 weeks.

*Forearm.*—Females 2. R. 1, U. 1. In each case there has been associated with the dislocation a fracture of the lower end of the humerus, which had masked the dislocation for 4 months in 1 case and 5 in the other case.

*Finger.*—Males, æt. 5, 7. Index finger. Attempts to reduce successful after tenotomy in one case, in the other only partially so.

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*Fractures—*

*Humerus.*—Males 5, females 1.

*Simple.*—Males 2. C. 1, R. 1.

*Comminuted.*—Female 1. C. 1.

*Compound.*—Males 3. C. 2, R. 1. One of these with comminution.

## INJURIES OF THE LOWER EXTREMITIES.

*Dislocations—*

*Hip.*—Males 3, females 3. Displacement on to the dorsum 3; reduction by manipulation 3; 3 were congenital, 2 females and 1 male; in 1, however, there was a doubt as to the exact duration, in this case only 1 hip was affected. *Complications.*—Wound of leg; fracture of opposite femur 1.

*Knee.*—Male 1, female 1. C. 2. Both right and with rupture of ligament.

*Patella.*—Female, æt. 34. Partial; of old standing.

*Ankle.*—Male, æt. 54. Compound, with fracture of fibula; inflammatory delirium; secondary amputation required. Cured.

*Foot.*—Male, æt. 7. Severe twist of foot, 14 days, at tarso-metatarsal line of articulation and incomplete.

*Fractures of the femur.*—Males 59, females 33. C. 85, R. 2, D. 5.

*Simple.*—Males 49, females 25. C. 71, R. 2, D. 1. Of these 45 were of the right, and 28 of the left leg; it is not stated in one case, 32 were caused by direct and 36 by indirect violence, the nature of the accident was not stated in 6. There were 5 oblique fractures, while the remainder were principally transverse: separation of lower epiphysis in 1; delayed union 1, male, æt. 20, admitted 12 months after injury, C.; refractures after short interval 2; comminuted into knee-joint 3; in 2 cases the femur was fractured in more than 1 place; in 1 the fracture was comminuted. *Complications.*—Wound of artery and vein 1 (see Fatal case); paralysis of limb 1. Other injuries: fracture of clavicle 1; fracture of humerus 1; rupture of tendons 1; fracture of tibia 1; scalp wound 1.

*Fatal case.*—Male, æt. 16. Crushed between a waggon and gatepost. Admitted 13½ hours after accident. Wound of artery and vein by spicule of bone. Amputation. Died 14 hours afterwards from shock.

*Compound.*—Males 3. C. 1, D. 2. All caused by direct violence. Æt. 5. Left femur, also lacerated wound of thigh extending into the knee. Measles, diphtheria, death after tracheotomy. Æt. 8. Right femur, also fracture of ribs, left humerus, wounds of perinæum and face, lacerated. Died next day.

*Compound comminuted.*—Males 3, female 1. C. 3, D. 1. Of the right femur 2, left 2; all caused by direct violence. Amputation of thigh in 3. In 1 case, æt. 50, there was also a fracture of the other femur.

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*Fatal.*—Æt. 16. Entangled in machinery. Left femur, also fracture of right tibia and fibula. Amputation of left thigh primary. Suppuration in right knee followed, for which amputation was performed later. Died from exhaustion, having been in the hospital 204 days.

*Neck of femur.*—Males 4, females 7. C. 10, D. 1. Four extracapsular; 2 impacted; 2 comminuted, 7 intracapsular, all impacted. Right 7; left 4; direct violence 3; indirect 7; patient unable to give clear account of accident 1; emphysema and bronchitis 1.

*Fatal.*—Æt. 58. Admitted 2 days after injury. Bone comminuted. Lived 3 days. P.M.—Pulmonary apoplexy, fatty degeneration of the heart.

*Fractures of patella.*—Males 18, females 7. C. 23, R. 2. Of the left side 13; right side 12. Caused by muscular action 19; direct 5; doubtful 1; refractures 2. In 1 case the joint was aspirated. *Complications.*—Wound of forehead 1; facial paralysis 1; cystitis 1.

*Fractures of tibia.*—Males 24, females 11. C. 26, R. 9. Of the right 20; left 15. 18 due to direct, 17 to indirect violence. 8 were transverse; scalp wound 1; none compound.

*Fractures of fibula.*—Males 35, females 6. C. 30, R. 11. Of the right 18; of the left 23. 6 due to direct; 33 to indirect; and in 2 it was doubtful. Contusions of legs 1; of parts around fracture 1; rupture of internal lateral ligament 1; synovitis of knee 1; congenital syphilis 1; ulcer of leg with erysipelas 1.

*Fractures of the tibia and fibula.—Simple.*—Males 64, females 19. C. 66, R. 17. Of these 51 were of the right, and 32 of the left. 26 were due to direct, and 57 to indirect violence; comminution in 3; fracture in more than one place 1; also of the other leg 1; transverse of tibia 8; severe local contusion 4. Other injuries: fracture of radius 1; wound of leg 1; effusion into knee-joint 1. Erysipelas 1; pleurisy 1; acute eczema 1.

*Compound.*—Males 6, females 2. C. 8. Right leg 5; left 3. Two were caused by direct; 4 by indirect; 1 not known. 1, æt. 36, bone removed, suppuration in calf followed, hæmorrhage from posterior tibial necessitated amputation. In 1 bone was removed for subsequent necrosis; in 1 bone removed at the time of injury. Æt. 53, had epithelioma of tonsil and tongue, from which hæmorrhage occurred, which required ligature of the common carotid artery.

*Compound comminuted.*—Males 3. C. 2, D. 1. Æt. 75, with compound comminuted fracture of right radius and ulna, for which amputation required. Suppuration about the fracture of leg. Secondary operation performed. Æt. 50, right leg. Amputation below knee, sloughing of flaps, suppuration in knee-joint, amputation of thigh, further sloughing, pyæmic condition, pus forming in shoulder-joint. Aspiration of joint twice. In hospital 178 days, C.

*Fatal.*—Æt. 66. Railway accident. Both legs, facial paralysis, collapse. No operation.

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## Special Table I.—*Hernia.*

### *Inguinal.*

| No. | Occupation. | Sex. | Age. | Duration of hernia. | Duration of strangulation. | Treatment. | Structure of hernia. | Result. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | School | M. | 9 | Congenital | — | Radical cure | Entero-epiplocele | C. | Hernial sac situated behind processus vaginalis, which was shut off from peritoneum at internal ring. Omentum removed. Sacs removed and pillars of ring approximated. |
| 2 | Farm labourer | M. | 48 | Left, 9 yrs. Right, 9 yrs. | — | ,, | Enterocele | C. | Operation performed on each side, firstly on the right. Sac ligatured and cut off, pillars of ring approximated. Had retention of urine at first. When convalescent, an epileptiform seizure. |
| 3 | Porter | M. | 24 | 18 months | Irreducible, 5 days | Ice bag | ? | C. | Went back after four days' treatment. |
| 4 | Plasterer | M. | 55 | Left, 7 yrs. Right, 5 yrs. | Irreducible, 5 weeks | ,, | Epiplocele | C. | Incision of sac four days after admission for suppuration. Contained omentum; nearly all separated as a slough. He had also ventral hernia. Died Jan., 1884, from general suppuration of omentum. |
| 5 | Watchmaker | M. | 43 | 7 years | Irreducible, 6 months | Elastic pressure | ,, | R. | Stout man. Large hernia. One attack of vomiting with abdominal pain whilst under treatment. Operation seven years ago for strangulation. |
| 6 | Nil | M. | 78 | 20 years | ? years | — | Entero-epiplocele | R. | Size of a man's head: quite irreducible. |
| 7 | Labourer | M. | 35 | ? years | 3 days | — | ? | C. | Hernia which had produced symptoms of acute strangulation, became reduced spontaneously in bed an hour after admission. |
| 8 | Child | M. | 2½ | Congenital | 4½ hours | Bath | ? | C. | Taxis before bath unsuccessful. |
| 9 | Lighterman | M. | 52 | 4 years | 4 hours | Ice bag | Enterocele | C. | |
| 10 | Railway Porter | M. | 50 | 16 years | 26½ hours | ,, | ? | C. | Reduced after two days. |

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|---|---|---|---|---|---|---|---|---|---|
| 11 | Sawyer | M. | 70 | 8 years | 24 hours | „ | ? | C. | ment, followed by vomiting; reduced by taxis. |
| 12 | Nil | M. | 60 | 20 years | 5 hours | „ | Enterocele | C. | Operation for strangulation fourteen years ago. |
| 13 | Pla | M. | 50 | 4 years | 2 days | „ | „ | C. | Went back next morning. |
| 14 | Bricklayer | M. | 56 | 15 years | 3 days | „ | ? | C. | Hydrocele on same side; tapped. |
| 15 | Tennis-bat maker | M. | 35 | Congenital | 1½ hours | „ | ? | C. | |
| 16 | Carman | M. | 25 | 3 years | 6 hours | „ | ? | C. | Hernia had been roughly handled in attempt to reduce it before admission. Went back six hours after application of ice. Attack of peritonitis followed. |
| 17 | — | M. | 38 | 20 years | 3 days | Taxis under anæsthetic | ? | C. | |
| 18 | Child | M. | 5 | Congenital | 24 hours | „ | Enterocele | C. | Was kicked by a boy over the hernia after it had descended. |
| 19 | Sawyer | M. | 55 | ? years | 1 hour | „ | ? | C. | |
| 20 | Labourer | M. | 44 | 12 years | 6 hours | „ | ? | C. | |
| 21 | Stereotyper | M. | 39 | 2 years | 5 hours | Operation with radical cure | Entero-epiplocele | C. | Taxis unsuccessful. Omentum removed. Fluid in sac. Intestine congested. Congenital variety. |
| 22 | Mason | M. | 50 | Congenital | 1 day | „ | ? | C. | Taxis unsuccessful. Contents reduced after extra-peritoneal incision. Radical cure then performed. |
| 23 | Gasfitter | M. | 43 | 15 years | 36 hours | „ | Entero-epiplocele | C. | Taxis unsuccessful. Sac ligatured and removed; rings approximated. Operation followed by some orchitis and cellulitis of scrotum. |
| 24 | Child | M. | 11 mos. | Congenital | 3 days | „ | Enterocele | C. | Extra-peritoneal incision. Ligature and removal of the sac, and approximation of pillars of the ring. |
| 25 | Gardener | M. | 56 | 6 years | 8½ hours | „ | „ | C. | Sac removed after ligature of its neck, a good deal of fluid came from peritoneal cavity. Phlebitis during treatment. |

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## Special Table I.—*Hernia (continued).*

| No. | Occupation. | Sex. | Age. | Duration of hernia. | Duration of strangulation. | Treatment. | Structure of hernia. | Result. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|
| 26 | Kitchen porter | M. | 28 | — | 2 days | Operation with radical cure | Entero-epiplocele | C. | Omentum ligatured and removed. Hernia of congenital variety. Had retention of urine and diarrhœa after operation. |
| 27 | Porter | M. | 21 | — | 10 hours | „ | Enterocele | C. | Gut congested, several ounces of fluid in sac. Constriction very tight. Counter opening in bottom of scrotum for drainage. Congenital variety. |
| 28 | Child | F. | 9 mos. | Congenital | 2 days | „ | „ | C. | Blood-stained fluid in the sac. Intestine slightly congested. |
| 29 | Married | F. | 31 | 6 years | 6 days | „ | „ | C. | Suffering from hiccough. Intestine dark and congested. Brown-coloured fluid in the sac. Sac removed but pillars of ring not approximated. She had a miscarriage on eighth day after operation; some symptoms of peritonitis for a day or so before that. |
| 30 | Frame maker | M. | 55 | 4 years | 16 hours | „ | Entero-epiplocele | D. | Intestine black and intensely congested, blood-stained fluid in the sac; omentum removed. Retention of urine. Persistence of symptoms. Died thirteen days later. P.M.—Lump of intestine incarcerated in a sac behind the internal ring and under the peritoneum. |
| 31 | Gardener | M. | 80 | 30 years | 2—3 days | Extra-peritoneal | ? | D. | Lived nineteen days. P.M.—Congestion, œdema, and emphysema of lungs. Granular kidneys. Fatty heart. |
| 32 | „ | M. | 48 | 4 years | 5 days | Sac opened | Enterocele | D. | Intestine firmly adherent to sac. (Sigmoid flexure.) Strangulation relieved. Died three days later. Acute peritonitis, slight but general. |
| 33 | Engine driver | M. | 47 | ? years | ? 5 days | „ | „ | D. | Sigmoid flexure and colon, adherent and irreducible. Extremely stout. No evident constriction. Died immediately after operation. P.M.—Sigmoid flexure constricted at point of emergence from the sac. Fatty heart. |

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|---|---|---|---|---|---|---|---|---|---|
| 34 | Costermonger | M. | 50 | 4 years | 4 days | „ | „ | D. | apparently caused symptoms. P.M.—Enlarged liver and spleen, early interstitial nephritis. Died day of admission. |

*Femoral.*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 35 | Widow | F. | 75 | 2 months | — | Ice bag | ? | C. | |
| 36 | Married | F. | 77 | 25 years | Obstructed, 3 months | „ | ? | C. | Double. Left obstructed. |
| 37 | Carman | M. | 42 | — | 6 days | „ | Epiplocele | C. | Became adherent. |
| 38 | Married | F. | 32 | 6 years | 1 day | Sac opened | Entero-epiplocele | C. | Omentum removed. Sac ligatured at the neck and cut off. |
| 39 | „ | F. | 33 | 20 years | 10 days | „ | Enterocele | C. | Slight adhesion of intestine and sac. |
| 40 | „ | F. | 54 | — | 1 day | „ | „ | C. | Sac ligatured and removed. |
| 41 | „ | F. | 57 | 6 weeks | 3 days | | Entero-epiplocele | C. | Sac ligatured and removed. Omentum removed. |
| 42 | „ | F. | 42 | 2 years | 1 day | | Enterocele | C. | Sac ligatured and removed. Some adhesion of intestine to sac. |
| 43 | Single | F. | 45 | 14 years | 10 hours | „ | „ | C. | Sac ligatured and removed. Retention of urine. |
| 44 | Married | F. | 44 | 10 weeks | 3 days | „ | „ | C. | Sac ligatured and removed. |
| 45 | Widow | F. | 68 | 12 years | 6 days | „ | Entero-epiplocele | C. | Sac not removed. Intestine very dark. Cystitis. |
| 46 | „ | F. | 70 | 20 years | 5 days | „ | „ | C. | Sac and omentum removed. Cystitis. |
| 47 | „ | F. | 76 | 4 years | 6 days | „ | Enterocele | C. | Sac removed. |

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SPECIAL TABLE I.—*Hernia* (*continued*).

| No. | Occupation. | Sex | Age. | Duration of hernia. | Duration of strangulation. | Treatment. | Structure of hernia. | Result. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|
| 48 | Married | F. | 42 | 8 years | 4 days | Sac opened | Entero-epiplocele | D. | Sac removed, also omentum. Died thirteen days after operation, and two after commencement of acute tetanus. P.M.—Rupture of intestine and localised peritonitis. |
| 49 | Widow | F. | 60 | — | 8 days | „ | Enterocele | D. | Fat woman. Fæcal vomiting for three days. Gut dark red, granular. Sac removed. She died soon after operation, vomit continuing. No P.M. |
| 50 | Nil | M. | 77 | 20 years | 6 days | „ | Entero-epiplocele | D. | Omentum removed. Gut gangrenous, yielding at time of operation, artificial anus formed. Lived only three hours. Nothing abnormal found, excepting the presence of operation wound. |
| 51 | Married | F. | 64 | ? years | 2 days | No operation | „ | D. | Severe taxis employed before admission when she was in a state of collapse, dying two hours later. P.M.—Slightly granular kidneys, uterine polypus, ovarian cyst, intestine involved in hernia, a piece nine inches above the ileo-cæcal valve. No peritonitis. |
| | | | | | | | *Umbilical.* | | |
| 52 | Butcher | M. | 49 | 20 years | 4 days | Sac opened | Entero-epiplocele | D. | Omentum removed. Lived eight days. Died of bronchitis and diarrhœa. No P.M. |
| 53 | Widow | F. | 49 | 20 years | 3 days | „ | „ | C. | No bad symptoms. |

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# SPECIAL TABLE II.—PYÆMIA.

(Admitted with the disease.)

1. Female, æt. 19. Servant. Suffering from anæmia for some time before the development of symptoms a fortnight before admission. There was shooting pain in the left lower abdomen, vomiting, swelling of abdomen, somewhat rapid at first, and for a week œdema of the legs. She had no rigor and knew no cause for the disease. The patient also complained of palpitation and shortness of breath. On admission there was marked anæmia; swelling of the abdomen, chiefly below and on the left side, with distinct evidence of ascites. Both legs were swollen and œdematous; there was no albuminuria; pulse 120; temp. 101·2°. She was transferred to a medical ward after 9 days, where she ultimately died (see Medical Report).

2. Male, æt. 50. Engineer. Was under treatment for hemiplegia. He injured his left hand with a piece of iron 3 days before admission; this injury was followed by swelling of the hand; he had rigors and general malaise. On admission, semi-delirious; restless and low spirited; passing evacuations involuntarily. There was diffuse cellulitis of the left hand and forearm, not much superficial redness, but considerable pitting on pressure, the arm being very tense. Pulse 110. Several incisions were made, yellow discharge but no pus. The inflammation spread and more incisions were required. No pus formed and there was no evidence of metastatic abscesses. The delirium continued, becoming of a low type, unconsciousness gradually came on, and the patient died comatose 4 days after admission. The temperature, which was 100° on admission, rose gradually, with hardly any remission, from day to day, and at the time of death reached 108°. P.M.—Suppuration in left wrist, hand, and forearm; over the dorsum of right middle finger and around the right elbow-joint. Acute pleurisy; pericarditis; early granular kidneys.

3. Male, æt. 10. School. Admitted March 17th. Injury to head 4 days before admission, produced by fall downstairs, followed by temporary concussion. The same evening he complained of pain in the right knee, and next day complained of headache, was feverish, and slightly delirious in the evening. Delirium increased, and the day before he was admitted his parents noticed internal squint of the left eye and he had diplopia. On admission, continually talking; slight internal squint of the left eye; diplopia; and slight right facial paralysis; picks at the bedclothes; temp. 104·4°. Three leeches applied to the nape of the neck.

18th.—Temp. 102·6° to 104·8°. No improvement; no optic neuritis.



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19th.—More incoherent talking almost continually. Ptosis of both eyes tongue dry, almost black; sordes on lips and teeth; pulse 140; urine 1022; albumen ⅛th; temp. 103° to 104·4.°

20th.—Much weaker; muttering, delirium; complained of pain in the abdomen last night; this morning it is distended and tender; pulse irregular and thready; a pustule appeared over the left thigh; the lower epiphysis of the right tibia tender and slightly swollen; slight swelling of left forearm and over the back of the left hand; three subcutaneous nodules developed in abdominal wall; temp. 103·8° to 105°.

21st.—Bowels acted for the first time, after enema; passed a very restless night; the swelling on the dorsum of the left hand has increased, and there is a small red patch on the dorsum of the left foot. He has also tenderness about the left shoulder. Resp. 72; pulse running; temp. 104·6° to 104·8° at noon, when he died. P.M.—Pus found over the left carpus; numerous infarcts in both lungs (hæmorrhagic) with localised pleurisy; pericarditis; walls of the ventricles studded with small abscesses; small infarcts in both kidneys.

4. Male, æt. 2 weeks. Admitted July 31st, died August 7th. Swelling of ankles commenced 5 days before admission. There was suppuration in and around both ankle-joints, and a sinus on the outer side of the left.

August 1st.—Some swelling was noticed in the right epididymis; abscess of right ankle incised.

3rd.—Marked jaundice.

4th.—Abscess forming over the sacrum.

6th.—Abscess in each axilla; left, acromio-clavicular joint; patches of raised inflammatory character over the head, in two places, over the left styloid process, knuckle of right fourth finger, also over the dorsal region; abdomen distended and tympanitic.

7th.—Frequent convulsive seizures during last twenty-four hours.

P.M.—Suppuration in umbilical vein; suppuration above left clavicle, in both ankle-joints; abscesses in brain; acute pericarditis; collapse of lung; double hydrocele.

5. Female, æt. 3 weeks. Admitted November 20th, died December 15th. No history of syphilis. The navel had not closed, and 6 days before admission mother noticed swelling of the right shoulder, left labium major, and also inner side of the left thigh. On admission there was an abscess around the right shoulder; swelling of the labia, and hard, non-fluctuating swelling at the inner side of the left thigh. Temp. p.m. 100°.

22nd.—Abscess of shoulder incised; the upper end of the humerus was hard and rough for about an inch, and the detached head was found in the glenoid cavity; the exposed surface being smooth and hollowed; temp. p.m. 21st 103·8°; this morning 99°.

25th.—Swelling over inner side of right knee, and abscess over lower epiphysis of the right tibia.

27th.—Swelling over right tibia extending.

December 4th.—Another swelling in the right groin; œdema of left leg and thigh.

7th.—Vomiting; no sweating; losing flesh.

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14th.—Died; no fresh symptoms; temperature irregular, varying from 97° to 104·8°. No P.M.

6. Female, æt. 11 weeks. The mother had puerperal fever after the birth of the patient. Child continued healthy until a week before admission, December 9th. She was weak, pallid, and thin; tongue coated with thin white fur; no vomiting; bowels acting; taking milk fairly. There was great swelling of the legs, especially the left, extending from the groins to the toes, swelling of œdematous character but very firm and solid; skin reddened. Over the left side of the abdomen there was desquamation as after an erysipelatous eruption. The viscera were apparently healthy; some cough; temp. 101°. Temperature varied from 98° to 105°. Patient gradually sank, dying December 16th. P.M.—Suppurative peritonitis; collapse of lungs.

## CASES ARISING IN THE WARDS.

Case 1.—Stonemason, æt. 32; 10 weeks' swelling of ankle. Admitted with necrosis of the left os calcis, bone from which was removed 14 days afterwards. Seven days later the temperature rose, and swelling in the left knee-joint followed. He had been subject to swelling of the joint before, but with less pain. Twenty-six days after the operation the knee was tapped and sero-purulent fluid withdrawn. It was aspirated 4 days later, the fluid possessing similar characters. He was losing flesh rapidly, suffering from profuse sweats, anorexia, and had considerable weakness, the temperatures being high and irregular, but usually higher at night, 100°—104°. Amputation of thigh was performed 36 days after the first operation. Five days later signs of consolidation, with probably excavation at the right and to a less extent at the left base. Some crepitation at left apex with general rhonchi. Sixteen days later an abscess formed in the neck, but at this time he began to improve, and although the temperature continued of a somewhat hectic character, the expectoration of muco-purulent character somewhat diminished, and he had gained sufficient strength to get up a fortnight later this. Five days after this an abscess over the scapula was opened. Other smaller abscesses formed in the back, from which pus was evacuated. The patient ultimately left hospital cured 143 days after admission. No rigors.

Case 2.—Carman, æt. 40. Hey's amputation performed, on admission, for a severe crush of the left foot. This was followed by a sloughy condition of wound, with some cellulitis, requiring incisions on the 3rd and 4th days after operation. On the evening of the day following operation the temperature rose to 103·4°, and continued high and irregular for about 3 weeks. Doses of quinine were given at intervals of 4 hours for some days without producing a fall of temperature, 104° and 105° being frequently recorded. A fortnight after operation an incision was required into a suppurating bruise over the elbow. Next day there was profuse perspiration, and a general eruption of slightly elevated red spots, fading on pressure, appeared. About the same time swelling of the leg came on, apparently from phlebitis of the femoral vein. Thirty-three days after admission an abscess was opened in the right buttock; 8 days later another in the left calf; a month later a slough formed on the foot. The patient had well-

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marked rigors accompanied by the usual phenomena, 8, 22, 41 days after operation. The left leg continued weak and swollen for a long time, and it was necessary to perform tenotomy of the tendo Achillis in order to permit the foot to be placed firmly on the ground. About 40 days before he left the temperature became normal and afterwards continued so. Duration of residence 233 days.

CASE 3.—Male, æt. 15. Admitted with necrosis of right tibia, sinuses over the left ulna, also of right ulna with thickening of bone, deformity with swelling of left hip and ankylosis of both hip-joints, some considerable impairment of the movement of knees. Symptoms commenced 8 months previously with lameness and swelling in left groin; mischief gradually showed itself—left ulna, shin, &c., with occasional attack of shivering. Seven days after admission sequestra were removed from tibia and ulna; small pieces had exfoliated during the time previous to admission. Erysipelas appeared next day; 8 days later an abscess over the right ulna required incision; 4 days later an abscess over the right hip was incised; 8 days later one below the right clavicle, connected with the joint. Next day an incision in the right groin; 8 days later one was required behind the left hip; 3 days later between the scapulæ; 4 days later over 4th dorsal spine. After the immediate invasion of the erysipelas, when the temperature rose to 105°, it gradually fell, and as the erysipelas subsided became for a time normal, but later usually rose from one to two degrees in the evening. He was removed by his friends after 54 days' residence, having much improved.

CASE 4.—Female, æt. 45, married. Confined a month before admission; confinement followed by rigors 14 days later; unable to suckle for 14 days on account of sore nipples; 3 weeks after confinement an abscess in right breast, which has continued to discharge. Sallow, the right breast projecting, nipple flattened, two sinuses, discharge rather pent up, pustule on finger of right hand, pustular eruption over front of chest and abdomen, temp. 100·4°. Incisions made and drainage-tubes introduced 3 days after admission. High temperature and rigors next day, with excessive sweating; 17 days after admission pleurisy in right side with some pneumonia. Offensive discharge from breast 25 days after admission, swelling of left knee, also in right side of the back. Œdema of left leg, with suppuration in the calf, swelling of right buttock, unconsciousness, tympanitic distension of abdomen with tenderness, and loss of power over sphincters. She had a second rigor on the 22nd day, and throughout after the incision high (104—105·8°) and irregular temperatures. Lived 31 days. No P.M.

CASE 5.—Female, æt. 50, married. Admitted with ulceration of leg, the result of cellulitis 6 months previously. Leg wasted and flexed, with several excavated openings in the skin, muscles and fascia below being exposed. Leg gradually extended, 9 days after admission a rigor, temp. 103·6°. Shivering next day and rigor again, temp. 105·8° the day after, and on each of the two following days. Unconsciousness, involuntary evacuations, muscular twitchings, delirium. Dark purple patches formed over left leg and calf, not fading on pressure, œdema of left foot. Temperature gradually rose from 99° on the night before death to 108° in the axilla at time of death. P.M.—Suppuration of tissues all around the right knee. Pyæmic abscess in the right lung, right pleurisy, some slight extravasations of blood into skin of left leg.

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CASE 6.—Fireman, æt. 27. Admitted with cellulitis of scrotum and penis, which had commenced 24 hours previously. No stricture. Incisions. Delirium at nights, becoming violent. Passed into a typhoid state, with muttering delirium, dry brown tongue, sordes, high temperatures, 102·2°—106·4°, and running pulse (200), dying 9 days after admission with a sloughing dry wound. P.M.—Abscess beneath left pectoralis major, in left rectum sheath, right spermatic cord, internal organs softened and diffluent without infarcts.

CASE 7.—Stableman, æt. 42. Admitted with retention of urine, which had been slowly coming on for 4 days. Perinæal puncture performed. Temp. 103·6° at admission, falling afterwards to 99·4°. Next day he had hæmorrhage from his kidneys which lasted for about 4 days. Fifteen days after admission slight shivering, temp. 104·6°, with painless swelling of the right leg; 20 days after admission painful red patch on each arm; 3 days later a rigor; later, diarrhœa and swelling of the other leg; 32 days after he came in there was an abscess over the right forearm, fluid in and around the left knee, with considerable œdema of both legs, profuse sweats, slight diarrhœa. Increasing weakness, temperature 100° to 101° in the evening, but the day before death a rigor and temperature of 104·2°. P.M.—Stricture of urethra, enlarged prostate, periprostatic abscess, cystitis; suppuration in left knee-joint, over right radius, left second metacarpo-phalangeal joint, and right calf. Early abscesses in the spleen, but in no other internal organ.

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## Special Table III.—*Erysipelas.*

| No. of case. | Sex. | Age. | Disease for which admitted. | Ward in which it arose. | Duration of residence in hospital before attack developed. | Probable cause of the attack. | Part where eruption appeared. | Duration of time between action of probable cause and appearance of eruption. | Duration of attack. | Result. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | F. | 35 | Scirrhus of chest wall, breast, and glands | Alexandra | 17 days | Removal of stitches ten days after amputation | Wound | 3 days | 6 days | C. | Operation extensive. |
| 2 | F. | 43 | Scirrhus of breast and glands | „ | 38 „ | Operations for removal | Axilla | 5 „ | 5 „ | C. | Patient epileptic, had an attack of bronchitis after operation. She had also supernumerary mamma in each axilla. |
| 3 | F. | 47 | „ | „ | 31 „ | „ | Wound | 20 „ | 4 „ | C. | |
| 4 | F. | 37 | „ | Elizabeth | 12 „ | „ | Axilla | 4 „ | 6 „ | C. | Operation extensive. |
| 5 | F. | 35 | „ | „ | 5 „ | „ | Wound | 2 „ | 15 „ | C. | |
| 6 | M. | 50 | Epithelioma of cheek and gland | Albert | 7 „ | „ | „ | 5 „ | 1 „ | D. | P.M.—Cardiac thrombosis. |
| 7 | M. | 64 | Epithelioma of nose | Leopold | 25 „ | „ | „ | 17 „ | 16 „ | C. | Symptoms with gland swelling for a long time before appearance of eruption. P.M.—Meningitis. |
| 8 | M. | 45 | Sarcoma of lower jaw | „ | 15 „ | „ | „ | 5 „ | 10 „ | C. | |
| 9 | M. | 43 | Fibrous tumour of sacrum | Edward | 26 „ | „ | „ | 17 „ | 8 „ | C. | |
| 10 | F. | 20 | Adenoma of breast | Alexandra | — | „ | „ | 8 „ | 10 „ | C. | Large wound. |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | M. | 62 | Ischio-rectal abscess | Albert | 2 | „ | Sinus after abscess | Sinus | 1 | „ | 3 | „ | D. | Feeble old man, delirium and exhaustion, temperature not high, and the eruption limited in extent. |
| 12 | M. | 21 | Ulcer of thigh | Henry | 55 | „ | ? Skin grafting | Ulcer | ?20 | „ | 15 | „ | C. | The ulcer followed an attack of cellulitis. |
| 13 | M. | 22 | Sinuses of hip | Edward | 37 | „ | Examination of sinuses, incisions | Sinuses | 4 | „ | 5 | „ | C. | Same case; 2 attacks. |
| 14 | M. | 22 | „ | „ | 105 | „ | Incision of sinus | „ | 6 | „ | 7 | „ | C. | |
| 15 | M. | 21 | Strumous glands of neck | Leopold | 18 | „ | Removal of glands | Wound | 12 | „ | 3–4 | „ | C. | |
| 16 | M. | 29 | Calculus vesicæ | Edward | 53 | „ | Lithotomy | „ | 28 | „ | 6 | „ | C. | Symptoms for four days before the eruption. |
| 17 | F. | 23 | Vesico-vaginal fistula | Alexandra | 9 | „ | ? | Buttock | ? | | ? 86 | „ | C. | Large fistula, very offensive. Albuminuria. No operation. |
| 18 | M. | 33 | Extravasation of urine | Albert | 16 | „ | Perinæal section | Wound | 16 | „ | 12 | „ | C. | Same case; 2 attacks. |
| 19 | M. | 33 | „ | „ | 33 | „ | ? | „ | ? | | 8 | „ | C. | |
| 20 | M. | 57 | „ | William | 6 | „ | Perinæal section | „ | 6 | „ | 9 | „ | D. | P.M.—Cystitis, pyelitis. |
| 21 | M. | 23 | Fistula in ano | Edward | 5 | „ | Operation | „ | 5 | „ | 4 | „ | C. | |
| 22 | F. | 13 | Acute periostitis of pelvis | Alexandra | 80 | „ | ? Incision | „ | ?80 | „ | 9 | „ | C. | |
| 23 | M. | 13 | Acute periostitis of humerus | Edward | 68 | „ | Sequestrotomy | „ | 1 | „ | 8 | „ | C. | Same patient; 2 attacks. |
| 24 | M. | 13 | „ | „ | 87 | „ | ? | „ | ? | | 11 | „ | C. | |
| 25 | F. | 19 | Necrosis of rib | Elizabeth | 9 | „ | Probing | „ | 6 | „ | 11 | „ | C. | Symptoms for five days before appearance of rash. |
| 26 | M. | 20 | Necrosis of humerus | Albert | 6 | „ | Sequestrotomy | „ | 1 | „ | 10 | „ | C. | Same patient; 2 admissions. |
| 27 | M. | 20 | „ | „ | 10 | „ | „ | „ | 9 | „ | 3 | „ | C. | |
| 28 | M. | 16 | Necrosis of tibia | Leopold | 22 | „ | „ | „ | 19 | „ | 11 | „ | C. | |
| 29 | M. | 18 | „ | „ | 36 | „ | „ | „ | 10 | „ | 11 | „ | C. | |
| 30 | M. | 15 | „ | Albert | 8 | „ | „ | „ | 1 | „ | 17 | „ | C. | See Pyæmia. |
| 31 | F. | 17 | „ | Elizabeth | 28 | „ | „ | „ | 20 | „ | 8 | „ | C. | |
| 32 | M. | 25 | Necrosis of os calcis | Leopold | 47 | „ | „ | „ | ?44 | „ | 6 | „ | C. | Abscess afterwards formed in the thigh. |
| 33 | M. | 25 | „ | „ | 2 | „ | Sinuses | Sinuses | ? | | 2–3 | „ | C. | Same patient, the two last readmissions, no operation. |
| 34 | M. | 25 | „ | „ | 14 | „ | „ | „ | ? | | 3 | „ | C. | |

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## Special Table III.—*Erysipelas (continued).*

| No. of case. | Sex. | Age. | Disease for which admitted. | Ward in which it arose. | Duration of residence in hospital before attack developed. | Probable cause of the attack. | Part where eruption appeared. | Duration of time between action of probable cause and appearance of eruption. | Duration of attack. | Result. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 35 | M. | 14 | Scald of leg | Henry | 31 days | Granulating surface | Ulcer | ? | 8-10 days | C. | |
| 36 | M. | 16 mos. | Scald of buttocks and abdomen | Victoria | 7 „ | „ | Abdomen | ? | 5 „ | C. | |
| 37 | M. | 22 | Disease of joint of big toe | Albert | 16 „ | Excision | Wound | 6 „ | 5 „ | C. | |
| 38 | F. | 34 | Fracture of tibia and fibula | Elizabeth | 27 „ | Formation of sores after vesication and sloughing of skin | Sores | ?18 „ | 11 „ | C. | |
| 39 | F. | 52 | Fracture of fibula and ulcer of leg | „ | 20 „ | Ulcer | Ulcer | ? | 7 „ | C. | |
| 40 | F. | 5 | Burn of arm and chest | Victoria | 56 „ | Granulating surface | Arm | ? | 3 „ | D. | ? Cardiac thrombosis. |
| 41 | F. | 7 | Slight burn of face and hand three weeks before, pneumonia | Alexandra | 1 day | „ | Cheek | ? | 9 „ | D. | P.M.—Gangrenous pleuro-pneumonia, focal inflammations in lung and kidneys. |
| 42 | F. | 27 | Stab of neck | Elizabeth | 5 days | Wound | Neck | 5 „ | 15 „ | C. | Same patient 3 attacks, two last in the Erysipelas Ward. |
| 43 | F. | 27 | — | Anne | 21 „ | — | — | ? | 7 „ | C. | |
| 44 | F. | 27 | — | „ | 32 „ | Wound | Neck | ? | 4 „ | C. | |
| 45 | M. | 49 | Contused wound of the leg | Leopold | 6 „ | „ | Wound | ? 6 „ | 10 „ | C. | |
| 46 | M. | 38 | Lacerated wound of leg | „ | 12 „ | „ | „ | ?2 „ | 8 „ | D. | |
| 47 | F. | 30 | Contused wound of knee | Alexandra | 1 day | — | — | ? 1 „ | 5 „ | C. | |
| 48 | M. | 24 | Contused wound of scalp | Leopold | 5 days | — | — | ? 5 „ | 9 „ | C. | |
| 49 | M. | 62 | „ | Edward | 5 „ | — | — | ?5 „ | 8 „ | C. | |
| 50 | F. | 9 | Lacerated wound of arm | Elizabeth | 8 „ | — | — | ?5 „ | 8 „ | C. | |
| 51 | M. | 20 | Phimosis and chancre | Henry | 10 „ | Circumcision | Wound | ?8 „ | 8 „ | C. | |

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| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 52 | | | | | | | | | | | | |
| | F. | 19 | Vaginal discharge | | | sphincter ani | | | | | | |
| 53 | | 50 | Erysipelas of arm | Anne | 51 | " | Incisions | Arm | 5 | " | 11 | C. |
| 54 | M. | 49 | Erysipelas of leg | Henry | 48 | " | Ulcer | Leg | " | | 28 | C. |
| 55 | F. | 22 | " | Anne | 33 | " | " | " | " | | 3 | C. |

The females had the second attack in the Erysipelas Ward; the man who had previously had attacks, in Henry Ward, where emanations from foul ulcers and suppurating sores would be a likely cause in one predisposed and depressed by long illness.



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# OPHTHALMIC REPORT.

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# STATISTICAL REPORT

OF

# THE OPHTHALMIC DEPARTMENT

## FOR THE YEAR 1884.

By S. W. SUTTON, M.D.,
LATE OPHTHALMIC CLINICAL ASSISTANT.

During the year there were 3443 new out-patients (exclusive of renewed letters); 1525 of these were males and 1918 females. There were 329 in-patients admitted, including 34 readmissions.

### *Analysis of In-patients.*

| | | | |
|---|---|---|---|
| Cataract, senile | 42 | Amblyopia from the bisulphide of carbon | 1 |
| „ lamellar | 7 | Functional night blindness | 1 |
| „ traumatic and concussion | 6 | Retinitis, pigmentosa | 5 |
| „ diabetic | 1 | „ syphilitic | 1 |
| „ pyramidal | 3 | Detached retina | 3 |
| Membrane after extraction | 10 | Intra-ocular hæmorrhage | 2 |
| Dislocation of lens | 3 | Ischæmia, retinal arterial | 1 |
| Glaucoma, acute | 7 | Glioma | 3 |
| „ chronic | 17 | Astigmatism | 1 |
| „ secondary | 6 | Myopia | 1 |
| Sympathetic irritation | 2 | Ophthalmia, catarrhal | 4 |
| „ inflammation | 2 | „ gonorrhœal | 3 |
| Iritis, syphilitic | 3 | „ diphtheritic | 1 |
| „ rheumatic | 10 | Result of ophth. neonatorum | 2 |
| „ fœtal | 1 | Ulcers of cornea | 28 |
| Irido-choroiditis | 3 | Keratitis, heredito-syphilitic | 13 |
| Choroiditis, acquired syphilitic | 3 | „ punctata | 1 |
| „ heredito-syphilitic | 2 | Scleritis and episcleritis | 3 |
| Atrophy of optic discs | 3 | Sclero-keratitis | 2 |
| Optic neuritis (single) | 2 | Nebulæ and leucomata | 2 |
| „ (double) | 3 | Conical cornea | 2 |
| Tobacco amblyopia | 1 | | |



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| | | | |
|---|---|---|---|
| Buphthalmos | 1 | Strabismus, divergent | 4 |
| Pterygium | 1 | Pain in orbit after excisión | 1 |
| Granular lids | 24 | Orbital abscess | 2 |
| Blepharitis | 3 | Injury to orbit and eyeball | 1 |
| Ptosis, congenital | 1 | Inflamed blind eye | 2 |
| Lacrimal abscess and mucocele | 2 | Exophthalmic goitre | 2 |
| Laceration of lids | 2 | Wounds of eyeball | 17 |
| Ectropion | 2 | Rupture of eyeball | 1 |
| Dermoid cyst | 1 | Foreign body in eye | 2 |
| Lupus | 1 | Readmissions | 34 |
| Rodent ulcer | 3 | | |
| Strabismus, convergent | 5 | | 329 |

## The following is a list of the chief operations performed:

(*The figures refer to the number of eyes.*)

| | | | |
|---|---|---|---|
| Removal of cataract—68: | | Peritomy | 1 |
| Extraction of senile cataract | 51 | Removal of steel from lens by magnet | 1 |
| Suction | 3 | Tenotomy of internal rectus—37: | |
| Curette extraction | 11 | By Critchett's method | 15 |
| Removal of shrunken cataract | 1 | „ Liebreich's „ | 22 |
| Discission | 2 | Tenotomy of external rectus—9: | |
| Extraction of dislocated lens | 1 | By Critchett's method | 1 |
| Förster's operation for ripening cataract | 6 | „ Liebreich's „ | 8 |
| Discission after extraction | 23 | Advancement of internal rectus | 4 |
| Iridotomy „ „ | 3 | „ external „ | 1 |
| Iridectomy „ „ | 10 | Excision of eyeball | 50 |
| „ for lamellar cataract | 1 | Operation for trichiasis | 3 |
| „ for acute glaucoma | 10 | „ ectropion | 1 |
| „ for chronic „ | 7 | Union of lids | 5 |
| „ for absolute „ | 1 | Canthoplasty | 1 |
| „ for secondary „ | 5 | Removal of rodent ulcer (plastic operation in one case) | 3 |
| „ for iritis | 8 | Plastic operation of lids | 2 |
| „ for sympathetic iritis | 2 | Operation for lacrimal obstruction | 5 |
| „ for prolapse of iris | 7 | Lupus scraped | 3 |
| „ for artificial pupil | 32 | Dermoid cyst removed | 1 |
| „ preliminary to extraction of cataract | 11 | Puncture of eye for detached retina | 3 |
| Sclerotomy | 12 | Pterygium | 2 |
| Scleral puncture for glaucoma | 1 | | |
| Operation for conical cornea | 2 | | |
| Separation of anterior synechiæ | 2 | | 342 |

### *Analysis of Cataract Operations.*

I.—Extractions of hard cataract—51.

The section was made upwards in every case except three; viz. No. 24, in which it was made down and in; and Nos. 25

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and 38, in which it was made downwards. The section was that of de Wecker in all cases.

Iridectomy was done at the time of extraction, except in the cases numbered 5, 8, 15, 19, 21, 22, 42, 44, 45, 46.

Eserine was used four times during the first forty-eight hours after the operation in every case, except No. 15. Atropine was commenced on the third day, and used twice daily for about fourteen days; but it was used more frequently in cases where there was iritis, and less frequently when there was any atropine irritation or delirium, as in the case of No. 37. No 34 is the only one in which atropine was not used at all.

In fourteen cases no anæsthetic of any kind was used. Chloroform was given in nineteen cases, preceded by brandy in the case of old people. In three cases it was preceded by the administration of some ether, and in two cases it was given with methylic alcohol. Ether alone was given in four cases. Cocain was used in fourteen cases, either in the form of a solution of the hydrochlorate, 2 per cent.; or in the form of gelatin discs, each disc containing gr. $\frac{1}{200}$ of cocain. Three discs, or three applications of the solution, were generally used within ten minutes of the operation.

The dressing consisted of a piece of dry linen and a compress of absorbent wool kept in position by a flannel bandage, or a four-tailed bandage, either knitted or made of soft webbing.

II.—Operations for soft cataract, &c.—17.

In all cases where needling, suction, or curette extraction was performed, the pupil was well dilated with atropine before the operation. After all cases of needle operation atropine was used every one or two hours for about forty-eight hours, and lint wet with ice-water constantly applied for a like period.

Suction with Bowman's syringe was performed three times, and curette extraction nine times, a preliminary needle operation having been done in six cases; discission twice, extraction with iridectomy twice, extraction of a shrunken membranous cataract once.

Of the seventeen cases, six had no anæsthetic, seven took ether, and one ether followed by chloroform; in six cocain was used.

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## TABLE I.—*Extractions of Hard Cataract*—51.

| No. | Name and date. | Sex. | Age. | Anæsthetic. | Vomiting or retching. | Operation. | Progress of case. | Secondary operation. | Result. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | K. E. Jan. 11th (same as No. 20 in 1883) | F. | 60 | None | None | Extraction of right upwards with iridectomy; lens large, came out clean; behaved well | During next 17 days a little inflammatory œdema of lids; some flaky discharge on the 12th day; later, pupil rather drawn up, membrane in lower part | — | Jan. 31, V. = some letters of 16 J., and less than $\frac{6}{60}$. |
| 2 | E. S. Feb. 19th | F. | 46 | Chloroform | A good deal of retching | Extraction of left upwards with iridectomy; section rather small; lens hard and flat; pupil left black | 6 days after operation congestion and adhesion of outer part of iris to the capsule; 6 days later pain and aqueous muddy; 22 days after operation still much inflamed, and pupil getting drawn up | — | March 13, discharged, with iritis; no later note. |
| 3 | S. S. Feb. 29th (same as No. 26 in 1883) | F. | 59 | None | None | Extraction of right upwards with iridectomy; nucleus small and hard; much soft matter removed by manipulation through lids; behaved well | A little pain during the next 9 days; adhesion of outer limb of iris to wound. Oct. 30th.—Thick membrane in pupil | Oct. 31, membrane cut by iridotomy shears | Jan. 26, 1885, V. = $\frac{6}{9}$ fairly, and 1 J. well. Astigmatism = 3·5 D. |
| 4 | R. D. March 3rd | M. | 73 | Chloroform after brandy | — | Extraction of right upwards with large iridectomy; nucleus small and hard; a good deal of soft matter probably left. (Sclerotomy in left at same time for acute glaucoma. Extraction of cataract about 40 years ago) | Favorable | — | July 8, V. = $\frac{6}{12}$ and 1 J. fairly. Astigmatism = 1·5 D. |

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|---|---|---|---|---|---|---|---|---|---|
| | March 7th | | | | | of moderate size, hard; some soft matter removed afterwards | synechiæ up and out | membrane torn with 2 needles | tism = 3 D. |
| 6 | A. B. J. March 11th (same as No. 16) | F. | 66 | None | — | Extraction of right upwards with iridectomy | A little iritis without pain 11 days afterwards | — | July 10, 1885, V. = $\frac{6}{12}$ partly, and 1 J. |
| 7 | M. C. March 21st | F. | 40 | None | — | Extraction of right upwards with iridectomy; section rather small; lens came well; nucleus very hard, and larger than usual at her age; vitreous presented slightly; eye rather prominent | Attacks of iritis in June, July, and November, with membrane in pupil and T.—1; cannot use atropine much | — | 3 weeks after extraction V. = $\frac{90}{100}$ and words of 1 J.; subsequently had relapses of iritis. |
| 8 | J. J. H. March 21st (same as No. 22) | M. | 68 | Chloroform | — | Left extracted upwards 2 months after preliminary iridectomy; section almost in iridectomy scar; lens presented immediately; after opening capsule, and before any pressure applied, a gush of semi-fluid but healthy vitreous, followed by escape of lens; some cortex left in lower part of pupil | 9 days after operation some congestion and pain, with swelling of lids and discharge lasting 8 days | — | June 12, V. = $\frac{6}{18}$, and 1 J. |
| 9 | J. J. March 25th (same as No. 15 in 1883) | M. | 68 | ,, | — | Extraction of right upwards with iridectomy; capsule freely opened, but lens would not present; a little healthy vitreous began to escape, and lens was removed with Snellen's loop | Favorable | May 6, membrane torn with 2 needles | May 12, V. = $\frac{6}{18}$ partly, and 1 J. fairly. |
| 10 | N. B. March 25th | F. | 40 | Ether first, then chloroform | — | Extraction of right upwards with iridectomy; cornea thin; lens very soft; pupil left quite black | 2 days after operation an attack of acute pneumonia on left side; some pleurisy when this subsided. April 16th.—A corneal nebula and dull reflex from fundus; no details of fundus seen | — | April 29, V. = some letters of 20 J. |

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| No. | Name an date. | Sex. | Age. | Anæsthetic. | Vomiting or retching. | Operation. | Progress of case. | Secondary operation. | Result. |
|---|---|---|---|---|---|---|---|---|---|
| 11 | C. P. March 27th (same as No. 19) | M. | 70 | None | — | Extraction of right upwards with iridectomy; nucleus rather large and hard; some soft matter left | Favorable | — | Apr. 13, V. = $\frac{6}{12}$ partly, and 1 J. slowly; astigmatism = 3 D. |
| 12 | J. H. March 27th (same as No. 13) | M. | 73 | Chloroform | — | Extraction of left upwards with iridectomy; nucleus small and hard; much soft matter removed afterwards | April 10th.—Congested; opaque matter in pupil; two synechiæ at angles of coloboma. June 26th.—Both pupils blocked with membrane, right denser than left; left iris concave from adhesion to membrane | July 11, membrane in both pierced with broad needle; in right the puncture went thro' the lower part of iris; neither gaped; no anæsthetic | July 30th, discharged. L. p. clear; R. p. contains pigment. |
| 13 | J. H. April 18th (same as No. 12) | M. | 73 | Chloroform and methylic alcohol | — | Extraction of right upwards with iridectomy; ? wound of lens capsule with point of knife; counter-puncture and section too far back; periphery of *iris cut with knife*; pupillary margin not removed; lens large; speck of opacity left in pupil. No eserine after operation. Operation by F. W. M. | July 28th. — Coloboma clear in left; blocked with brown opacity in right | July 15, chloroform; iridectomy downwards in each; capsule in left lacerated with keratome and pupil left black | |
| 14 | T. S. May 2nd | M. | 69 | None | — | Extraction of left upwards with iridectomy | Favorable | — | Some thin membrane in pupil; no lens matter. Most. V. — |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | May 6th | | | then chloroform | | rather large; some soft matter removed afterwards; no eserine | | operation | |
| 16 | A. B. J. May 6th (same as No. 6) | F. | 66 | None | — | Extraction of left upwards with iridectomy; nucleus rather large; some soft matter removed afterwards | — | — | July 10, 1885, counts fingers at 3 metres; 8 J. at 9″; astigmatism = 1·5 D. Final result very good. No secondary operation. |
| 17 | M. W. May 16th (same as No. 86 in 1883) | F. | 65 | Chloroform and methylic alcohol | — | Extraction of left upwards with large iridectomy; lens not quite clean | Favorable | Needle 3 weeks later | July 30, V. = $\frac{6}{12}$, 2 J. well, 1 J. slowly. |
| 18 | G. S. May 23rd (same as No. 33) | M. | 58 | None | — | Extraction of right upwards with iridectomy; capsule opened freely a second time, as lens did not present well; nucleus small and hard; a good deal of friable cortex removed afterwards | Did perfectly | — | June 2, V. = $\frac{6}{12}$, and 1 J. well; astigmatism = 3 D. Same result as left eye. |
| 19 | C. P. June 6th (same as No. 11) | M. | 70 | None | — | Extraction of left upwards 7 weeks after preliminary iridectomy; behaved badly; middle of section slightly corneal; considerable escape of healthy vitreous before cystotome used, and again when lens nearly out with scoop; lens came out in capsule | Did well, and was discharged in 10 days | — | A year later attack of iritis with haze of cornea. |
| 20 | H. C. June 13th (same as No. 39) | M. | 63 | None | — | Extraction of left upwards with iridectomy; behaved very well; eye prominent, and as vitreous presented in the wound soft matter was not coaxed out; nucleus small, much gruelly cortex | Favorable | — | Oct. 13, V. = $\frac{6}{9}$ partly, and 1 J. well. |
| 21 | J. L. June 20th (same as No. 26) | F. | 65 | Chloroform after brandy | Vomiting | Extraction of right with Pagenstecher's spoon, without cystotomy; lens clean, but without capsule; no loss of vitreous | Favorable | — | Aug. 25, V. = $\frac{6}{12}$, and 1 J. well; astigmatism = 1·5 D. |

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| No. | Name and date. | Sex. | Age. | Anæsthetic. | Vomiting or retching. | Operation. | Progress of case. | Secondary operation. | Result. |
|---|---|---|---|---|---|---|---|---|---|
| 22 | J. J. H. June 20th (same as No. 8) | M. | 68 | Chloroform after brandy | None | Extraction of right upwards; wound rather scleral; lens small, escaped rather with a jerk; vitreous not seen; eyes prominent | — | — | Aug. 7, V. = $\frac{6}{36}$. |
| 23 | A. McG. June 27th | M. | 70 | „ | None | Extraction of left upwards with iridectomy; lens over-ripe. Opacities in vitreous of other eye | Iritis a week later, with numerous adhesions | — | July 24, discharged; no later note |
| 24 | M. G. June 27th (same as No. 25) | F. | 51 | Ether | Much vomiting | Extraction of left with iridectomy down and in. Cataract complicated with dense leucoma and anterior synechia in each eye | — | Oct. 10, cocain; iridectomy and puncture of membrane in left; loss of much fluid vitreous | March 6, 1885, left sees hand moving at 3′. Slightly improved by + 10 D.; not by cylinder. Not a letter of 20 J. with any glass. |
| 25 | M. G. Oct. 10th (same as No. 24) | F. | 51 | Cocain solution | Much vomiting | Downward corneal section for extraction of right; section too short; iridectomy; loss of vitreous; removal of small, hard, and flat lens with Pagenstecher's spoon; eye anæsthetic, but behaved badly | — | Feb. 17, '85, cocain in right; incision inwards with Taylor's knife, and greater part of iris removed after repeated introduction of forceps; no loss of vitreous; in left, horizontal iridotomy from within; a little escape of vitreous | Right, has p. l. only. |
| 26 | J. L. July 1st (same as No. 21) | F. | 65 | Chloroform after brandy | None | Extraction of left upwards with iridectomy | Did well, except for one adhesion of iris | — | Aug. 25, V. = $\frac{6}{12}$, 1 J. well; astigmatism = 1·5 D. |
| 27 | E. R. July 1st | F. | 43 | Ether | Vomiting | Extraction of right upwards with iridectomy | Much collapse after operation; two iritic adhesions, otherwise did well | — | Aug. 14, V. = $\frac{6}{6}$. |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 28 | A. B. July 18th | F. | 64 | None | — | Extraction of right upwards with iridectomy; much soft matter, not quite all removed | Did well, left hospital in 13 days. Dec. 18th, some opaque soft lens matter and membrane in pupil | 3 cocain discs; membrane torn with Knapp's needle and an ordinary cataract needle | pupil, but recurs on centre of cornea; V. = $\frac{6}{36}$ partly, and 6 J. |
| 29 | C. E. July 18th | M. | 76 | Chloroform after brandy | None | Extraction of right upwards with iridectomy; lens hard; cornea thin and flabby; pupillary margin of iris not cut | Favorable | — | Aug. 5, V. = $\frac{6}{9}$ partly, and 1 J. well; astigmatism = 1·5 D. |
| 30 | A. T. July 25th | F. | 60 | None | — | Extraction of left upwards with iridectomy; cataract Morgagnian; nucleus hard and chippy; some of the fluid part of the cortex left behind lower limb of the iris | — | — | Aug. 5, counts the letters of $\frac{6}{9}$ and 1 J. Cannot read. |
| 31 | S. H. Aug. 1st | F. | 58 | Chloroform after brandy | None | Extraction of left upwards with iridectomy; section too short; lens came away with difficulty; pupil left black | Did well. Aug. 18th, much hazy membrane in pupil | — | July 10, 1885, V. = $\frac{6}{18}$, and 1 J.; astigmatism = 3 D. |
| 32 | E. W. Aug. 12th | M. | 72 | „ | None | Extraction of right upwards with iridectomy; much pasty cortex remained after extrusion of nucleus, but almost all removed by manipulation | Considerable atropine irritation | Nov. 11, needle operation, 2 needles used | Dec. 16, V. = $\frac{6}{12}$, and 12 J. fairly; astigmatism = 1 D. |
| 33 | G. S. Aug. 19th (same as No. 18) | M. | 58 | None | — | Extraction of left upwards with iridectomy; cornea seemed flabby and did not cut well; cystotome used twice; lens did not present well, but eventually came out clean, and was small. Probably T. was −, as it behaved like a post-mortem eye | Favorable | — | Oct. 13, V. = $\frac{6}{12}$, and 1 J.; astigmatism = 3 D. Same result as right eye. |

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| No. | Name and date. | Sex. | Age. | Anæsthetic. | Vomiting or retching. | Operation. | Progress of case. | Secondary operation. | Result. |
|---|---|---|---|---|---|---|---|---|---|
| 34 | E. H. Aug. 22nd | M. | 50 | Ether, followed by chloroform | None | Extraction of left upwards with iridectomy; soft lens matter escaped before iridectomy had been done or capsule torn; very small bit of iris removed by forceps alone; lens removed by manipulation; a good deal of soft matter left. Atropine not used afterwards | — | Oct. 24, cocain drops; membrane torn in three directions with Knapp's needle. Oct. 31, Knapp's needle again | Nov. 6, V.=$\frac{6}{18}$ partly, and 1 J. slowly. |
| 35 | M. A. W. Sept. 19th | F. | 47 | Ether | None | Extraction of right upwards with large iridectomy; nucleus hard, large, unusually globular and white; patch of opacity at centre of pupil adherent to capsule, and not removed | Slight iritis, with broad synechia to capsule below | — | Oct. 8, discharged; no later note. |
| 36 | J. E. Sept. 19th | F. | 22 | „ | None | Extraction of right upwards with large iridectomy; nucleus small, flat, and firm; not much cortex removed; probably some clear matter left. (One eyed cataract with divergent strabismus, without known cause) | Oct. 5th, bleeding into a. c. without apparent cause; blood absorbed in a week | [Oct. 24, ether; advancement of r. internal rectus tendon by Tweedy's method] | Good; operation done only for appearance. |
| 37 | A. S. Oct. 7th | M. | 77 | Chloroform after brandy | None | Extraction of right upwards with iridectomy; section large; iridectomy large; lens large and hard, came out nearly clean | A little delirious during the use of atropine. Knapp's needle, good gap. Feb. 20, attempt to tear membrane with sharp hook | Feb. 13, '85, membrane cut with triangular gap | March 1, 1885, membrane shows no clear gap; V.=$\frac{6}{24}$ badly, and 12 J. |
| 38 | M. A. B. Oct. 10th | F. | 72 | Cocain solution, 2 p. cent. | — | Extraction of right downward with iridectomy; behaved well; eye quite anæsthetic; central nebula on cornea | Severe atropine irritation in next month; much opaque matter in pupil | — | Good; discharged Oct. 29; no later note. |

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|---|---|---|---|---|---|---|---|---|---|
| 39 | H. C. Oct. 14th (same as No. 20) | M. | 63 | „ | — | Extraction of right upwards with iridectomy; pupil a little dragged up during operation, but recovered its position immediately; patient was very quiet; some soft cortex left | Some iritis, but pupil well dilated; leeched four successive nights a month after operation | | matter in pupil; V. = $\frac{6}{36}$, and 12 J. |
| 40 | A. B. Oct. 21st | F. | 61 | 3 cocain discs | — | Extraction of left upwards with iridectomy; section just at junction; free bleeding into a. c.; little soft matter left; behaved well; eye quite anæsthetic | Slight iritis 6 days afterwards | — | Dec. 16, some membrane in lower part of pupil; V. = $\frac{6}{18}$, and 1 J. well; astigmatism = 2 D. |
| 41 | L. H. Oct. 21st | F. | 68 | Cocain solution, 2 p. cent. | — | Extraction of left upwards with iridectomy; cortex sticky and not all removed; iris bled more than usual; behaved badly | Suppurated; severe "darts of pain" on day after operation, followed by dusky swelling of lids, chemosis, and discharge; gout in left foot and right thumb | — | Eye excised on the sixth day. |
| 42 | A. S. Oct. 21st (same as No. 45) | F. | 75 | 3 cocain discs | — | Extraction of right upwards; behaved well | Noisy delirium for 24 hours, beginning on day after operation; had to be held in bed | — | Jan. 26, 1885, V. = $\frac{6}{18}$, and 1 J.; astigmatism = 2 D. |
| 43 | M. A. H. Oct. 21st | F. | 77 | Cocain solution, 2 p. cent. | — | Extraction of right upwards with iridectomy; free bleeding into a. c.; section rather scleral | Slight serous chemosis on second day; attack of gout in left hand on third day. [Subject to gout] | — | July 10, 1885, V. = $\frac{6}{18}$, and 1 J.; astigmatism = 3 D. |
| 44 | T. W. Oct. 24th (old case of choroiditis; r. extraction of cataract, Mar. 12, '80) | M. | 53 | „ | — | Extraction of left upwards; lens sticky and came out with difficulty; a little soft matter removed by manipulation; vitreous presented, and a good deal of soft matter was allowed to remain | Favorable | Jan. 29, '85, needle operation under cocain | Feb. 3, 1885, V. = $\frac{6}{18}$ partly, and 1 J. well; astigmatism = 1·5 D. |
| 45 | A. S. Oct. 31st (same as No. 42) | F. | 75 | „ | — | Extraction of left upwards; behaved well | Favorable | — | Jan. 26, 1885, V. = $\frac{6}{18}$, and 1 J.; astigmatism = 1·5 D. |

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| No. | Name and date. | Sex. | Age. | Anæsthetic. | Vomiting or retching. | Operation. | Progress of case. | Secondary operation. | Result. |
|---|---|---|---|---|---|---|---|---|---|
| 46 | A. S. Nov. 7th | F. | 66 | Cocain solution and discs | — | Extraction of right upwards; lens sticky and extruded with difficulty; pupil left black | Favorable | — | Jan. 26, 1885, V. = $\frac{6}{18}$, and 6 J.; astigmatism = 2 D. |
| 47 | W. D. Nov. 7th | M. | 55 | Cocain solution, 2 p. cent. | — | Extraction of right upwards with iridectomy; iris cut with knife; nucleus large, cortex sticky; felt nothing but the cutting of the iris; behaved badly; there is a central opacity of cornea, after hypopyon ulcer | Nov. 10th, no a. c.; iris prolapsed into wound. He is a stupid man, and constantly disturbing the dressings | — | Nov. 14, eye excised, with large prolapse of iris into the re-opened wound. |
| 48 | M. B. Nov. 11th | F. | 62 | Cocain solution and ointment | — | Extraction of left upwards with iridectomy; lens large and hard; some soft matter left, which could not be removed; scarcely felt anything at all | Favorable | — | Dec. 1, discharged; no later note. |
| 49 | E. H. Nov. 28th (L. extracted in Nov., 1882) | M. | 82 | 9 cocain discs in 40 minutes | — | Extraction of right upwards with iridectomy; lens large; soft cortex came away separately; vitreous presented in wound, but none escaped; could feel the iris being cut, but said it did not hurt | Eye did well. He was troubled with retention of urine, and wished to return home quickly. Refraction not taken | Dec. 16, needle operation to both eyes; two needles in each case | +12 D. and +16 D. ordered, according to refraction of the left eye, with which he sees $\frac{6}{24}$, but is a bad reader. |
| 50 | M. B. Dec. 2nd | F. | 63 | Chloroform after brandy | None | Extraction of right upwards with iridectomy; much soft cortex remained after the nucleus was extruded; on attempting to coax it out vitreous presented in the wound | Favorable | — | Feb. 12, 1885, V. = $\frac{6}{36}$, and 1 J.; astigmatism = 2 D. Was always myopic. |
| 51 | M. H. Dec. 2nd | F. | 48 | 2 cocain discs | — | Extraction of left with iridectomy upwards; lens shrunken and flat, came out clean; felt the iris being cut, but no pain | — | — | July 10, 1885, V. = $\frac{6}{36}$, and 8 J.; astigmatism = 4 D. |

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TABLE II.—*Operations for Soft Cataracts*—17.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 52 | A. G. March 13th (same as No. 53) | F. | 10 | Ether | None | Suction of left 2 days after needling; was not well needled owing to escape of aqueous; a good deal of semi-opaque lens left; lamellar cataract | Favorable; but one adhesion of iris down and out | — | Aug. 22, V. = $\frac{6}{24}$; near vision not taken. |
| 53 | A. G. June 10th (same as No. 52) | F. | 10 | None | — | Curette extraction of right; section down and in, small; needled freely 4 days previously; some soft matter left | Favorable | — | Aug. 22, V. = $\frac{6}{24}$; near vision not taken. |
| 54 | F. K. June 30th | F. | 22 | None | — | Curette extraction of right 3 days after needle operation; incision with straight keratome; most of the lens escaped; lamellar cataract | A little pain and ciliary congestion a week later; relieved by leeches | — | July 14, 1885, V. = $\frac{6}{18}$, and 12 J. |
| 55 | J. M. June 27th | M. | 20 | None | — | Left solution operation; one needle used, and lens not much broken up; lamellar cataract | — | Nov. 11, lens again freely needled under cocain. | Favorable. Discharged Nov. 20; no further note. |
| 56 | F. W. July 18th | M. | 23 | Ether | None | Suction of right with Bowman's syringe 3 days after free needling; lens not completely opaque; much transparent matter removed; lamellar cataract | — | Oct. 31, needle. May 19, '85, membrane twisted by 2 needles | May 25, 1885, V. = $\frac{6}{18}$, and 1 J. |
| 57 | E. W. Aug. 5th (same as No. 58) | M. | 2 | Ether and chloroform | None | Extraction of left upwards; Graefe's knife; extraction attempted 4 days before; shrunken, tough lamellar cataract | Eye shrank after the secondary operation in Sept.; iris drawn back and puckered. T. — | Sept. 23, ether; removal of remains by cannula forceps through small corneal wound | Dec. 5, eye excised; shrunken. Child idiotic. |

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| No. | Name and date. | Sex. | Age. | Anæsthetic. | Vomiting or retching. | Operation. | Progress of case. | Secondary operation. | Result. |
|---|---|---|---|---|---|---|---|---|---|
| 58 | E. W. Sept. 23rd (same as No. 57) | M. | 2 | Ether | None | Extraction of right upwards with iridectomy; nucleus small and flat; much soft matter left; lamellar cataract | — | Dec. 5, ether; extraction of remains by cannula forceps through small incision with Taylor's knife | V. much improved, so that he could see things on the table several feet in front and take them up readily. |
| 59 | E. B. Nov. 6th | F. | 12 | Cocain solution | — | Curette extraction of left through corneal wound with Taylor's knife, on the day after free needling; felt nothing, but was very frightened; lamellar cataract | Eye congested and painful during next 10 days; leeched 5 times | — | V. = $\frac{6}{9}$ fairly, and 1 J. well; astigmatism = 0·5 D. |
| 60 | F. S. Nov. 7th | M. | 3 | Ether | None | Concussion cataract freely needled with two needles; capsule seemed tough, and lens moved about freely (left eye) | Favorable | — | Nov. 15, discharged; no later note. |
| 61 | A. P. Nov. 28th | M. | 20 | „ | Much vomiting | Curette extraction of right outwards through corneal incision with Taylor's knife; most of lens escaped, but with difficulty; concussion cataract probably; needled 2 days previously | Six leeches immediately after operation, as congestion, pain, and + tension had followed the needle operation | — | Favorable. |
| 62 | E. J. S. Decr. | F. | 30 | None | — | Curette extraction of left through small incision at periphery of coloboma; some opaque matter left; cataract at first pyramidal then becoming complete, with conical and nebulous cornea. Other eye lost. History of ophth. neonatorum. Iridectomy by Mr. Oldham, Brighton, July, 1882 | — | Mar. 3, '85, 3 cocain discs; freely needled with 2 needles. June 23, needled in same way | V. much improved; could see to go about easily. |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 63 | C. R. May 18th (same as No. 64) | M. | 17 | None | — | outwards with keratome; all the lens slid out easily except a small piece; diabetic cataracts | | | and 1 J. fairly. |
| 64 | C. R. May 23rd (same as No. 63) | M. | 17 | None | — | Curette extraction of left outwards; all lens removed; pupil left round | Began to inflame the next morning; cornea became opaque, eye congested, and some discharge from lids; no pain or chemosis | — | Death, on the 5th day, from diabetic coma. |
| 65 | D. T. June 13th | M. | 10 | Ether | Very sick | Left; removal of membranous cataract (traumatic), by cannula forceps, quite cleanly; it was attached to vitreous, a bead of which was cut away afterwards | Favorable | — | June 23, V. = $\frac{6}{18}$, and 2 J.; astigmatism = 2·5 D. |
| 66 | J. A. June 17th | M. | 5 | „ | Vomited | Suction of left six weeks after a blow by a stone; syringe entered twice; about two thirds of lens removed; some air entered | Favorable | Sept. 23, ether; membrane torn with one needle | Centre of pupil left black. |
| 67 | A. T. F. Nov. 4th | M. | 10 | Cocain solution | — | Curette extraction of right; not more than one third of lens escaped, in spite of much manipulation; traumatic cataract | Favorable; but pupil did not dilate well downwards | Dec. 9, 2 cocain discs; freely needled | — |
| 68 | W. D. Dec. 19th | M. | 13 | 3 cocain discs | — | Curette extraction of left; lens would not at first escape, but about half of it was extruded after the cystotome was used; traumatic cataract | Favorable | — | April 9, 1885, membrane in pupil will require a needle. |

Case 36 should have been placed in this Table.

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# St. Thomas's Hospital

# MEDICAL SCHOOL.

## CALENDAR

AND

## PROSPECTUS

FOR THE

YEAR COMMENCING OCTOBER 1ST, 1885.

1885 & 1886.

LONDON:

PRINTED BY WILLIAM CLOWES AND SONS, LIMITED,

STAMFORD STREET AND CHARING CROSS.

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*Full information on all matters connected with the Medical School, Prizes, &c., will be obtained on application to the Medical Secretary*, Mr. G. RENDLE, *at the Hospital, Albert Embankment, S.E.*

A Register of Lodgings suitable for Students has been recently revised, and is kept in the Secretary's Office. Information as to terms, accommodation, &c., can be obtained on application. This Register has been especially prepared, with a view to the convenience of gentlemen newly arriving in town, without definite arrangements having been made for their accommodation in lodgings or otherwise.

Several Medical Practitioners and Private Families residing in the neighbourhood receive Students for residence and supervision.

There is a Restaurant in the Medical School where Students can take their meals at moderate charges.



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# St. Thomas's Hospital

## MEDICAL SCHOOL.

The WINTER SESSION 1885 – 86 will commence on THURSDAY, OCTOBER 1st, and terminate on MARCH 31st.

The SUMMER SESSION will begin on MAY 1st, and terminate on JULY 31st.

An Introductory Address will be given in one of the Theatres of the Hospital by

A. O. MAC KELLAR, Esq., M.Ch.,

on THURSDAY, October 1st, at 3 P.M., after which the various Departments of the Hospital and School will be thrown open in working order for the inspection of Visitors.

Refreshments will be provided in the Library.

The Annual dinner, in which all former and present Students are invited to join, will take place the same evening in the Governors' Hall, at 6 for 6.30.

The Annual Distribution of Prizes will be made during the Summer Session.

ALL accounts agree in attributing the origin of St. Thomas's Hospital to circumstances more or less accidental. In Stow's "Survey of London," we find "that a fire happened in the Borough of Southwark in the year 1207, which destroying the Priory of St. Mary Overie, the Canons erected an Hospital hard by for the celebration of divine service, till their Monastery could be rebuilt; which they, soon after, accomplishing, Peter de Rupibus, or de la Roche, Bishop of Winchester, for the greater convenience of air and water, removed the said Hospital in the year 1215, and erected it in a place where Richard, Prior of Bermondsey, but two years before had built an Almonry or Almshouse for the reception of indigent children and necessitous Proselytes, and

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having dedicated the same to St. Thomas the Apostle, endowed it with land to the amount of three hundred and forty-three pounds per annum."

It is difficult to say whether it is owing to deficiency of historical accuracy in Maitland (from whom the above is quoted), or to excess of orthodoxy, that he names St. Thomas *the Apostle*. Certain it is, however, that Peter de la Roche denominated its foundation "The Spital of St. Thomas the Martyr of Canterbury," in honour of Thomas à Becket whose shrine in Canterbury Cathedral was already drawing what Chaucer aptly terms "shoals" of pilgrims down the "Old Kent Road," and past the very door of the Hospital to the Tabard Inn.

The next fact of importance seems to be the cession of the Hospital by the Prior of Bermondsey to a President, Master and Brethren, in 1482; unless we note an altercation in 1252 between the then Archbishop of Canterbury and the Bishop of Winchester for the patronage of it. This ended in favour of the latter, whose palace hard by survives in name, and partly in structure to the present day, as Winchester House. From an estimate formed about the later of these dates, it appears there were a master and brethren, and three lay-sisters, residing in the Hospital; forty beds were made up for poor, infirm and impotent people, all of whom had victuals and firing allowed to them.

From this time, Golding truly says, nothing of importance occurred either in the government or revenues of St. Thomas's Hospital until the 26th year of Henry VIII., when an estimate was formed of the latter, which were found to amount to the annual sum of £347. 3s. 6d. It is not to be wondered at that we have so little to record during these early times; for the "Hospitium" dependent on the rich Abbey of Bermondsey was, as the name strictly implies, more an Almshouse than a Hospital. No doubt the sick found their way into it with other distressed persons; and no doubt some learned monk, using the shelter and leisure of the cloister for researches in alchemy and medicine, was told off to minister to their

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physical necessities. The brotherhood of the Rosy Cross, to which Gower, now lying in the neighbouring church, belonged, was intimately connected with the early quest after Arcana and Elixirs of Life which represented the science of the time.

In the year 1535, Henry VIII. was excommunicated by Pope Paul III., and, declaring himself head of the church, proceeded to dissolve the Catholic houses, whose large revenues went to the Crown. There seem to have been 645 monasteries and abbeys thus treated, twenty-eight of which had abbots with seats in Parliament, ninety colleges and free chapels, and 110 hospitals of various descriptions. It is certainly in favour of the sweeping change that so able and honest a man as Sir Richard Gresham, the Lord Mayor of London, should have put his hand to the following petition to the King:

"Most redowted, puysant, and noble Prince * * * *—nere and within the cytie of London be iij hospitalls or spytells commonly called Seynt Georges Spytell, Seynt Barthilmews Spytell, and Seynt Thomas Spytell, and the new Abbey of Tower Hill, founded of good devotion by auncient fathers, and endowed with great possessions and rents only for the reliefe, comforte, and helping of the poore and impotent people lying in every street, offending every clene persone passing by the way with theyre fylthy and nasty savors. Wherefore may it please your merciful goodness, enclyned to pytie and compassion, for the reliffe of Xts very images, created to his own similitude, to order by your high authoritie, as supreme head of this Church of England, or otherwise by your sage discretion, that your mayer of your cytie of London, and his brethren the aldermen for the time being, shall and may from henceforth have the order, disposition, rule and governaunce both of all the lands, tenements, and revenues apperteynyng and belongyn to the said Hospitals, governors of them, and of the ministers which be or shall be withyn any of them, and then your grace shall facilie perceyve that where now a small number of Chanons, Priests, and Monkes be founde for theyr own profitt only, and not for the common

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utilitie of the realme, a great number of poore, needy, syke and indugent persones shall be refreshed, maynteyned, and comforted; and also healed and cured of their infermities frankly and freely by physicions, surgeons and potycaries, which shall have stipende and salarie only for that purpose; so that all impotent persones not able to labour shall be releved, and all sturdy beggars not willing to labour shall be punished."

St. Thomas's Hospital being claimed by the King as Church property, was surrendered to him by Thomas Thirleby, the then master, on the 15th July, 1538. It was called St. Thomas à Becket's Spittil. Its yearly revenue was estimated at £266. 17s. 6d., and an annual pension of 5s. 8d. was payable by the master, and another of 2s. 1d. by the curate, to the Archdeacon of Surrey. Soon after the seizure, we find that the Citizens of London purchased of the Crown some of its landed estates, producing about £160 yearly. The want of the hospital thus destroyed was felt immediately. Wounded soldiers from the army in France, and the sick poor in general were without provision or help, and Henry proposed granting to the City the Mansion house of St Bartholomew's, the dissolved house of Grey Friars adjoining, and the unoccupied fabric of St. Thomas's Hospital. The latter was intended by Henry to receive the name of the Hospital of the Holy Trinity, and to be allotted exclusively to lame, wounded, and diseased soldiers. The monastery of Grey Friars was to be for the education and maintenance of fatherless children and those of poor parents. The intentions of Henry were overtaken by death, but not before he had conferred upon the Citizens of London the Hospital of St Bartholomew's and also that of Bethlem for lunatics.

It is from the death of Henry that the connection of St. Thomas's Hospital with the city of London appears to begin. To meet the needs of the sick and destitute who had before depended on the charity of the religious houses, a Committee or Board of Inquiry was instituted by the Citizens, with the sanction of King Edward. About 2,100 souls were reported as fit recipients of relief, as fatherless children and invalids,

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or as "Idle rogues of both sexes who were levying contributions on public sympathy by feigned tales of sorrow." It was proposed to establish receptacles for each class in the unoccupied monastic buildings, and a pecuniary contribution was set on foot to complete the work. They bought the dissolved house of the Franciscans or Grey Friars near St. Bartholomew's Hospital, and also by charter from the King received a grant as follows: "That the said mayor, commonalty, and citizens, and their successors, may have and enjoy all the franchises, immunities, and privileges whatever, which any Archbishop of Canterbury, and which the said Charles late Duke of Suffolk, or any master, brethren, or sisters of the late Hospital of St. Thomas in Southwark aforesaid; or any Abbot of the said monastery of St. Saviour, Saint Mary Bermondsey, next Southwark aforesaid, or any prior and convent of the priory of St. Mary Overie, ever had or enjoyed, or which we hold or enjoy, or our most dear father Henry the VIIIth, late King of England, or had enjoyed, or ought to have, hold, and enjoy the same: and that none of our heirs or successors may intermeddle with this our grant."

The Greyfriars became Christ's Hospital, and the Southwark site the Hospital of the Holy Trinity or St. Thomas's. The Lord Mayor and certain citizens then met on the 6th of October, 1552, and constituted themselves by royal permission governors of the hospitals, and almoners of the money collected. The Hospital of the Holy Trinity they named, in compliment to Edward, the "King's Hospital," and ordained it to receive 260 "wounded soldiers, blind, maimed, sick, and helpless objects."

They also directed that 380 children should be received into Christ's Hospital.

To complete the scheme, the old palace of Bridewell, in Blackfriars, where the Emperor Charles V. had lodged in 1522, when on a visit to Henry VIII., and where subsequently Wolsey had lived, was granted to the City by Edward as a house of correction for dissolute persons and idle apprentices, and for the temporary maintenance of distressed vagrants.

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Lastly, the lands lately belonging to the Palace of the Savoy were conferred jointly on the three foundations; and a month only before the end of Edward's short reign, he incorporated by a second charter bearing date the 6th of June, 1553, the Lord Mayor and commonalty of the City of London in succession as perpetual governors of Saint Bartholomew's, Christ's, Bridewell, and the king's Hospital (which last received the name of ST. THOMAS THE APOSTLE), and secured to them the possession of all the estates and revenues appertaining to them by previous deeds of gift. So were the royal hospitals founded.

In 1557 the laws were framed and printed under the name of "The Order of the Hospitals of K. Henry the VIII. and K. Edward the VI., viz. St. Bartholomew's, Christ's, Bridewell, St. Thomas's. By the Maior, Cominaltie, and Citizens of London," &c.

Successive bequests and donations continued to augment the property of the charities, but during the reigns of Elizabeth, James I., Charles I., and the Protectorate, there appear few facts to note. In the abstract of the charter of confirmation granted to the City in 1663 by Charles II. on his restoration, we find the charter of Edward acknowledged and confirmed. The Great Fire of London in 1666 injured St. Thomas's in its revenues only; and a fire in Southwark anno 1676, ceased, "as if by divine interposition," at the Hospital, probably a strong and isolated block of building. Shortly after this, however, it was found necessary to rebuild the fabric, and in 1693 subscriptions were opened for this purpose. A long list of benefactions in this and the succeeding year, amounting in all to £37,769. 3s., is given by Golding, who especially singles out Sir Robert Clayton for eulogium. The statue then erected to him, and still extant, was originally dated 1701, but this was altered on his death to 1714. He was the founder of the old square in which it stood, replacing what Golding terms "a low swampy structure of the monastic order." In 1707, Mr. Guy, founder of the neighbouring hospital, erected three wards at his own

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charge. In 1717, the back block of buildings adjoining Guy's Hospital was added. With the exception of the two large blocks forming the Borough frontage, the north wing erected in 1833, and the south wing in 1839, the fabric seems to have remained unchanged until its purchase by the railway. In the centre of the front quadrangle stood the brass statue of King Edward, by Scheemakers, erected first in 1737, in pursuance of the will of Charles Joye, some time treasurer of the Hospital. It now stands in the grounds of the New Hospital.

It is a matter of more difficulty to trace the early history of the medical school in connection with the hospital. For the facts which follow we are indebted to the late R. G. Whitfield, Esq., who, from the long period during which his family had been associated with this foundation, was perhaps more qualified to speak than any other person.

The earliest mention in the hospital books of an apprentice is on December 31st, 1561. It is not until 1702 that a law is met with precluding pupils or surgeons from dissecting the dead body without permission from the treasurer.

In 1703 the grand committee resolved that no surgeon should have more than three "Cubbs," a term altered in 1758 to that of "Dressers." Besides these there were also apprentices to the surgeons of the hospital, and ordinary pupils. The first mention of lectures occurs soon after the appointment of Wm. Cheselden, in 1718. These he at first gave at his own house, but afterwards by permission in the hospital. They were on anatomy and surgery. In 1723 a regular registry was ordered to be kept by the apothecary, of pupils entering to surgical practice. In 1725, Guy's Hospital was opened for the reception of patients. In 1751 the assistant-physician was allowed to take two pupils for his own benefit. In 1768, an additional surgeon, Mr. Joseph Else, was elected to read lectures to the pupils.

The students of Guy's Hospital had by courtesy been allowed to attend the operations, and a similar favour admitted the St. Thomas's men to those at Guy's. But on

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the 8th November, 1768, it was formally resolved that the pupils of each hospital have the liberty of attending not only the operations, but surgical practice, and the money to be divided between the six surgeons and two apothecaries. Hence the appellation of the "United Hospital"; an amalgamation never extended beyond the surgical practice.

To Mr. Else is due the foundation of a regular anatomical school. Mr. Cline, who in 1781 was appointed to read lectures conjointly with Mr. Else, was mainly instrumental in bringing it to its greatest celebrity. At Mr. Else's death, Mr. Cline purchased the collection of preparations made by him and Mr. Girle, a former surgeon, which are now in the hospital museum, and became sole lecturer on anatomy. In 1788 he also became surgeon to the hospital. Mr., afterwards Sir Astley, Cooper was apprenticed to Mr. Cline in 1784, and before his election, as one of the surgeons to Guy's Hospital in 1800, was joint lecturer with his teacher on anatomy and surgery. They both added materially to the pathological museum.

In 1812 Mr. Henry Cline was elected surgeon to St. Thomas's Hospital on his father's resignation, and carried on the anatomical lectures conjointly with Astley Cooper. In 1813 a new anatomical theatre and museum were built, the hospital giving £3000 for the purpose, and the two lecturers £1000 each. In 1815 Mr. Benj. Travers, an apprentice of Astley Cooper's at Guy's, was elected surgeon, according to the established rule which gave the vacancy to the senior apprentice of either institution. Mr. Travers joined in the lectures, devoting his attention specially to ophthalmic surgery. In 1820 Mr. Joseph Henry Green was elected surgeon on the death of his cousin Mr. Hy. Cline, having been apprenticed to his uncle Mr. Cline in the year 1809. From 1820 to 1825 he lectured with Astley Cooper. At this period all the branches of medical study,—viz., medicine, chemistry, materia medica, midwifery, botany, and physiology —were lectured on at Guy's Hospital, and no physician of St. Thomas's was allowed to share them.

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In 1824 Sir A. Cooper resigned the surgical chair, and Mr. C. Aston Key, his apprentice and nephew by marriage, joined Mr. Green in the office. Mr. Fred Tyrrell, standing in exactly the same relation to Cooper, received permission to lecture on diseases of the eye. In the following year Cooper showed signs of cerebral disturbance, and the family desired that his nephew, Mr. Bransby Cooper, should be his successor. But the claims of Mr. John Flint South were considered superior, and he was appointed. From this cause the "United Hospitals" were severed, and a complete school set up in both. The majority of the students clung to Guy's, where the prestige of the great Sir Astley was still strong; and St. Thomas's school began to sink. The establishment of the Aldersgate Street private school under Tyrrell and Lawrence materially aided in this declension, as did also the secession of Dr. Elliotson to the newly-established University College, and the foundation of a fresh school at King's College, where for a time the surgical lectures were given by Mr. Joseph Henry Green, although a surgeon of St. Thomas's.

Owing to the unprosperous state of affairs in 1842, the Governors came forward to reorganize the school, and the aid of Mr. R. D. Grainger, whose popularity had been established in the Webb Street private school, was obtained. Mr. Joseph H. Green also rejoined the school; and Dr. Marshall Hall, Dr. Hodgkin, Dr. Martin Barry, Dr. Gregory, and Mr. Benjamin Travers contributed to its efficiency. This state of affairs continued until 1858, when the Governors gave back the management, and its attendant risks, into the hands of the lecturers.

For some years it was maintained with difficulty, and a much self-sacrifice on the part of the staff, during what may be termed a transitional period, in the hope, now realized, of its once more developing into an institution worthy of its old traditionary glories.

From its foundation down to the year 1862, the Hospital occupied the original site near London Bridge, but in that year the property was sold for the extension of the railway

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accommodation, and the establishment temporarily removed to the Surrey Gardens, where it was carried on till the Summer of 1871. In 1868 the first stone of the new Hospital at Westminster Bridge was laid by the Queen, and the completed building was opened by Her Majesty in 1871. In September the patients were first admitted into the new Hospital, and the Medical School was opened on October the 2nd.

The original Hospital latterly contained 500 beds. The present building contains in all 572 beds. It consists of six blocks appropriated to the reception of patients; with one for the administrative and other offices, and one for the Medical School. The Ward blocks, though connected by corridors, stand apart, so as to afford free exposure in all directions. The Wards, with the exception of four which are placed on the ground floor, occupy the first, second, and third floors. Generally, each Ward affords accommodation for 28 beds, which are placed against the piers between the windows, so as to secure thorough ventilation. In a small Ward annexed to each larger Ward, there are two beds for cases requiring special care or treatment.

Of the whole accommodation of the Hospital, about 180 beds are appropriated to ordinary Medical cases, and 230 to ordinary Surgical cases. There are also special Wards for the reception of diseases peculiar to women; for diseases of the eye; for venereal affections; and for children under six years of age. In one of the blocks, separated from the rest of the establishment, there are Wards for infectious diseases.

The space provided for each bed in the ordinary Wards is upwards of 1,800 cubic feet, and in the block appropriated to infectious diseases, about 2,500 cubic feet.

The Out-patients' Department is extensive and well arranged, and every facility is afforded for the treatment of different forms of Medical and Surgical casualties and diseases.

During the twelve months ending December 31st, 1884, the number of patients admitted into the Hospital amounted

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to 4,593. In the same period, 20,429 Out-patients have been treated, and in the Maternity department 2,385 women have been attended at their own homes. Casualties, to the number of 57,859 attendances, were treated during the same period.

The School buildings stand at the southern extremity of the Hospital, from which they are quite isolated. They contain ample accommodation for large classes of students.

The Museum is one of the most important in the metropolis. There is a large Reading Room and Library for the use of the pupils.

In addition to these are the various Lecture Rooms, the Dissecting Rooms, the Laboratories for Practical Physiology and for Practical Chemistry, and the Post-mortem Rooms.

---

The Committee of the "NIGHTINGALE FUND" have arrangements with the authorities of St. Thomas's for educating Women as Hospital Nurses. On the satisfactory completion of one year's training, they will be required to enter into service as Nurses in the Metropolitan or Provincial Hospitals or Infirmaries. A limited number of gentlewomen can be admitted under special agreements to this course of training, with a view to qualify themselves for superior appointments.

The Regulations as to the admission of Candidates may be obtained by writing to Henry Bonham-Carter, Esq., the Secretary of the Nightingale Fund, 91, Gloucester Terrace, Hyde Park, London, W.

Institutions requiring trained Superintendents or Nurses are requested to apply to the Secretary of the Nightingale Fund, or to Mrs. W. W. Wardroper, the Matron of the Hospital, giving as long previous notice as possible of their requirements.

Women wishing to be trained should, whenever it is possible, make personal application to Mrs. Wardroper, to be entered on the list of Candidates, for admission as vacancies occur.

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# MEDICAL OFFICERS, LECTURERS, &c.,

OF

# ST. THOMAS'S HOSPITAL

AND

# MEDICAL SCHOOL.

### CONSULTING PHYSICIANS.

T. A Barker, M.D. Cantab. et Edin. 109, Gloucester Place, Portman [Square, W.
Sir J. Risdon Bennett, M.D. Edin., F.R.S. 22, Cavendish Square, W.

### CONSULTING SURGEONS.

F. Le Gros Clark, Esq., F.R.S. .. Sevenoaks, Kent.
John Simon, Esq., C.B., F.R.S., D.C.L. 40, Kensington Square, W.

### CONSULTING OPHTHALMIC SURGEON.

R. Liebreich, Esq. .. .. .. .. 29B, Albemarle St., W.

### PHYSICIANS.

J. S. Bristowe, M.D. Lond., F.R.S., LL.D. 11, Old Burlington Street, W.
W. H. Stone, M.A., M.B. Oxon. .. 14, Dean's Yard, Westminster, S.W.
W. M. Ord, M.D. Lond. .. .. .. 7, Brook Street, W.
John Harley, M.D. Lond. .. .. .. 39, Brook St., W.

### OBSTETRIC PHYSICIAN.

H. Gervis, M.D. Lond. .. .. .. 40, Harley Street, W.

### SURGEONS.

Sydney Jones, Esq., M.B. Lond. .. 16, George St., Hanover Sq., W.
John Croft, Esq. .. .. .. .. .. 48, Brook St., Grosvenor Sq., W.
Sir William Mac Cormac, M.A., D.Sc. 13, Harley Street, W.
Francis Mason, Esq. .. .. .. .. 5, Brook St., Grosvenor Sq., W.

### OPHTHALMIC SURGEON.

E. Nettleship, Esq. .. .. .. .. 5, Wimpole Street, W.

### ASSISTANT PHYSICIANS.

J. F. Payne, M.D. Oxon. .. .. .. 78, Wimpole Street, W.
Seymour J. Sharkey, M.A., M.B. Oxon. 2, Portland Place, W.
George Gulliver, M.A., M.B. Oxon. 16, Welbeck Street, W.

### ASSISTANT OBSTETRIC PHYSICIAN.

R. Cory, M.A., M.D. Cantab. .. .. 73, Lambeth Palace Road, S.E.

### ASSISTANT PHYSICIAN FOR DISEASES OF THROAT.

F. Semon, M.D., Berlin .. .. .. 59, Welbeck Street, W.

### ASSISTANT SURGEONS.

A. O. Mac Kellar, Esq., M. Ch. .. 22, George St., Hanover Sq., W.
H. H. Clutton, Esq., M.A. Cantab. 2, Portland Place, W.
W. Anderson, Esq. .. .. .. .. 13, Welbeck Street, W.
B. Pitts, Esq., M.A., M.C. Cantab. 31, Harley Street, W.

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# MEDICAL OFFICERS, &c.—*Continued.*

**DENTAL SURGEON.**

W. G. Ranger, Esq. .. .. .. .. 4, Finsbury Square, E.C.

**ASSISTANT DENTAL SURGEON.**

C. E. Truman, Esq., M.A. .. .. .. 23, Old Burlington Street, W.

**RESIDENT ASSISTANT PHYSICIAN.**

H. W. G. Mackenzie, M.A., M.B.
Cantab. .. .. .. .. .. .. St. Thomas's Hospital, S.E.

**RESIDENT ASSISTANT SURGEON.**

G. H. Makins, Esq. .. .. .. .. St. Thomas's Hospital, S.E.

**ANÆSTHETISTS.**

Walter Tyrrell, Esq. .. .. .. 95, Cromwell Road, S.W.
E. F. White, Esq. .. .. .. .. 7, Dealtry Road, Putney, S.W.

**ELECTRICIAN.**

W. J. Kilner, B.A., M.B. Cantab. .. 104, Ladbroke Grove Road, W.

**APOTHECARY.**

S. Plowman, Esq. .. .. .. .. St. Thomas's Hospital, S.E.

**DEMONSTRATORS OF MORBID ANATOMY.**

S. J. Sharkey, M.A., M.B. Oxon. .. 2, Portland Place, W.
W. B. Hadden, M.D. Lond. .. .. 21, Welbeck Street, W.

**ANALYTICAL CHEMIST.**

Albert J. Bernays, Ph.D., F.C.S., F.I.C. Acre House, Brixton Rise, S.W.

**LECTURERS.**

A. W. Bennett, Esq., M.A., B.Sc. Lond., F.L.S. — 6, Park Village East, Regent's Park, N.W.
Alfred Carpenter, M.D. Lond. .. Croydon.
T. Cranstoun Charles, M.D. .. .. Crofton Lodge, Coventry Park, Streatham, S.W.
R. W. Reid, Esq., C.M. .. .. .. 75, Lambeth Palace Road, S.E.
H. Rayner, M.D. .. .. .. .. .. Hanwell, W.

**REGISTRARS.**

*Medical*—W. B. Hadden, M.D. Lond. *Surgical*—W. H. Battle, Esq.

**CURATOR OF THE MUSEUM.**

S. G. Shattock, Esq., F.R.C.S.

**LIBRARIAN.**

E. H. Denison, Esq.

**SECRETARY TO SCHOOL.**

George Rendle, Esq., M.R.C.S.
4, Park Hill, Forest Hill, S.E.

**DEAN OF THE SCHOOL.**

W. M. Ord, M.D.
7, Brook Street, W.



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# LECTURES AND DEMONSTRATIONS.

| | |
|---|---|
| *Medicine* | Dr. Bristowe. Dr. Ord. |
| *Clinical Medicine* | Dr. Bristowe. Dr. Stone. Dr. Ord. Dr. Harley. |
| *Do. Obstetric* | Dr. Gervis. |
| *Surgery* | Mr. Sydney Jones. Sir William Mac Cormac. |
| *Clinical Surgery* | Mr. Sydney Jones. Mr. Croft. Sir William Mac Cormac. Mr. Mason |
| *Do. Special Course* | Mr. Croft. |
| *Descriptive Anatomy* | Mr. Reid. Mr. Anderson. |
| *General Anatomy and Physiology* | Dr. John Harley. Dr. T. Cranstoun Charles. |
| *Practical Physiology* | Dr. T. Cranstoun Charles. |
| *Diseases of the Eye* | Mr. Nettleship. |
| *Chemistry and Practical Chemistry* | Dr. Bernays. |
| *Midwifery, and the Diseases of Women and Children* | Dr. Gervis. |
| *Physics and Natural Philosophy* | Dr. Stone. |
| *Materia Medica, and Therapeutics* | Dr. Stone. |
| *Forensic Medicine and Toxicology* | Mr. Clutton, Dr. Bernays, and Dr. Cory. |
| *Pathological Anatomy* | Dr. Payne and Dr. Sharkey. |
| *Botany* | Mr. A. W. Bennett. |
| *Comparative Anatomy* | Dr. Gulliver. |
| *Mental Disease* | Dr. H. Rayner. |
| *State Medicine* | Dr. A. Carpenter. |

## TEACHERS OF PRACTICAL SUBJECTS & DEMONSTRATORS.

| | |
|---|---|
| *Practical Chemistry* | Dr. Bernays. |
| *Practical and Manipulative Surgery* | Mr. Mason. Mr. Mac Kellar. |
| *Demonstrations in Anatomy* | Mr. Reid, Mr. Anderson, Dr. Taylor, Mr. Ballance. |
| *Demonstrations in Morbid Anatomy* | Dr. Sharkey and Dr. Hadden. |
| *Demonstrations in Morbid Histology* | Dr. Acland. |
| *Demonstrations in Physiology* / *Demonstrations in Practical Physiology* | |
| *Diseases of the Eye* | Mr. Nettleship. |
| *Diseases of the Skin* | Dr. Payne. |
| *Diseases of the Throat* | Dr. F. Semon. |
| *Diseases of the Ear* | Mr. Clutton. |
| *Diseases of the Teeth* | Mr. W. G. Ranger. Mr. C. E. Truman. |

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## TIMES OF ATTENDANCE OF THE PHYSICIANS AND SURGEONS IN THE WARDS.

| | Mon. | Tues. | Wed. | Thurs. | Fri. | Sat. |
|---|---|---|---|---|---|---|
| Dr. BRISTOWE | — | 2 | — | — | 2 | — |
| Dr. STONE | 2 | — | — | 2 | — | — |
| Dr. ORD | 2 | — | — | 2 | — | — |
| Dr. HARLEY | — | 2 | — | — | 2 | — |
| Dr. GERVIS | 2 | — | — | 2 | — | — |
| Mr. SYDNEY JONES | — | 2 | — | — | 2 | — |
| Mr. CROFT | 2 | — | — | 2 | — | — |
| Sir WILLIAM MAC CORMAC | 2 | — | — | 2 | — | — |
| Mr. MASON | — | 2 | — | — | 2 | — |
| Mr. NETTLESHIP | 2 | — | — | 2 | — | — |

## TIMES OF ATTENDANCE OF THE ASSISTANT-PHYSICIANS AND ASSISTANT-SURGEONS ON THE OUT-PATIENTS.

| | Mon. | Tues. | Wed. | Thurs. | Fri. | Sat. |
|---|---|---|---|---|---|---|
| Dr. PAYNE | — | 12.30 | — | — | 12.30 | — |
| Dr. SHARKEY | 12.30 | — | — | 12.30 | — | — |
| Dr. GULLIVER | — | — | 12.30 | — | — | 12.30 |
| Dr. CORY (Women and Children) | — | — | 1.30 | — | — | 12.30 |
| Mr. MAC KELLAR | 12.30 | — | — | 12.30 | — | — |
| Mr. CLUTTON | — | 12.30 | — | — | 12.30 | — |
| Mr. ANDERSON | — | — | 12.30 | — | — | 12.30 |
| Mr. PITTS | 12.30 | 12.30 | — | — | — | — |

## TIMES OF ATTENDANCE IN THE OUT-PATIENT SPECIAL DEPARTMENTS.

| | Mon. | Tues. | Wed. | Thurs. | Fri. | Sat. |
|---|---|---|---|---|---|---|
| Mr. NETTLESHIP (Diseases of Eye) | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 | — |
| Dr. PAYNE (Diseases of Skin) | — | — | 12.30 | — | — | — |
| Dr. SEMON (Diseases of Throat) | — | 1.30 | — | — | 1.30 | — |
| Mr. CLUTTON (Diseases of Ear) | 12.30 | — | — | — | — | — |
| Mr. RANGER / Mr. TRUMAN (Diseases of Teeth) | — | 10 | — | — | 10 | — |
| Dr. CORY (Vaccination) | — | — | 11.30 | — | — | — |



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## DAYS AND HOURS OF LECTURES AND DEMONSTRATIONS.

| WINTER SESSION. | Mon. | Tues. | Wed. | Thurs. | Fri. | Sat. | Years of Attendance |
|---|---|---|---|---|---|---|---|
| Physics | — | — | — | — | — | 12 | 1st Year. |
| Chemistry | — | 10½ | — | 10½ | 10½ | — | do. |
| Descriptive and Surgical Anatomy | 9½ | 9½ | 9½ | 9½ | 9½ | — | 1st & 2nd. |
| Anatomical Demonstrations* | 10—4 | 10—4 | 10—4 | 10—4 | 10—4 | 10—2 | do. |
| Physiology | — | 4 | 4 | — | 4 | — | do. |
| Physiological Demonstrations | 2 | — | — | 2 | — | — | do. |
| Practical and Manipulative Surgery | — | — | — | — | — | 9 | 2nd. |
| Medicine — Oct. 1st to Dec. 31st | 9 | — | — | 9 | 9 | — | 3rd. |
| Medicine — Jan. 1st to Mar. 31st | 4 | — | — | 4 | 4 | — | 3rd. |
| Surgery — Oct. 1st to Dec. 31st | 4 | — | — | 4 | 4 | — | do. |
| Surgery — Jan. 1st to Mar. 31st | 9 | — | — | 9 | 9 | — | do. |
| Pathological Anatomy (Practical) | — | — | — | — | — | 11½–1½ | 3rd or 4th. |
| Diseases of the Eye (Oct. 1st to Dec. 31st) | — | 5 | — | — | 5 | — | do. |
| Clinical Surgery (Special Course) | — | 9 | — | — | — | — | do. |
| Obstetric Demonstrations | — | — | 9 | — | — | — | do. |

Demonstrations of Morbid Anatomy 2 p.m. daily.

| SUMMER SESSION. | Mon. | Tues. | Wed. | Thurs. | Fri. | Sat. | Years. |
|---|---|---|---|---|---|---|---|
| Botany | — | 10 | 10 | — | — | 10 | 1st Year. |
| Materia Medica | 12 | — | 12.30 | — | 12 | — | do. |
| Practical Chemistry | 10—12 | — | — | 10—12 | 10—12 | — | do. |
| Practical Physiology | 2 | 2 | — | — | 2 | — | do. |
| Anatomical Demonstrations* | 10—12 | 2—4 | — | 10—12 | 2—4 | — | 2nd. |
| Midwifery | 4 | 4 | — | 4 | 4 | — | do. |
| Comparative Anatomy | 9 | — | — | 9 | — | — | do. |
| Forensic Medicine | — | 9 | — | 9 | — | 9 | 3rd. |
| Pathological Anatomy | — | — | 9 | — | 9 | — | do. |
| Do. Demonstration | 4 | — | — | — | — | — | do. |
| Practical and Manipulative Surgery | — | 4 | — | — | 4 | — | do. |
| Mental Diseases | — | — | — | — | 12 | — | do. |
| State Medicine | — | — | 4 | — | — | — | do. |
| Clinical Surgery (Special Course) | 9 | — | — | — | — | — | do. |

Demonstrations of Morbid Anatomy 2 p.m. daily.

The times of delivery of the Clinical Lectures are arranged, in accordance with other work, in the course of the Session.

* The Dissecting Room is open to the Students from 9 a.m. till 5 p.m.

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**SURGICAL OPERATIONS** are performed on Wednesdays and Saturdays at 1.30 p.m., and on other days in cases of emergency.

**In-Patients** are admitted daily at 11.30 a.m.

**Out-Patients** are seen by the Assistant-Physicians and Assistant-Surgeons on the days stated in the Table, (see p. 19). *Diseases of Women and Children* are treated, on Wednesdays at 1.30, and Saturdays at 12.30, by Dr. CORY.

**Casual Patients** are seen by the Resident Assistant-Physician, the Resident Assistant-Surgeon, the House-Surgeons, Assistant House-Surgeons and Dressers at 12 noon.

## SPECIAL DEPARTMENTS.

(*For Times of Attendance see Table, page* 19).

**Diseases of the Eye.**—Operations are performed at 4 p.m. on Tuesdays, and at 2 p.m., on Fridays. Ophthalmoscopic Demonstrations and Clinical Lectures on Diseases of the Eye are given by Mr. NETTLESHIP two or three times a week; and a class for learning the Ophthalmoscope is held each Session.

**Diseases of the Skin.**—A Course of Lectures is given by Dr. PAYNE in the Winter Session.

**Diseases of the Throat.**—A short Course of Clinical Lectures is given to senior students by Dr. SEMON during the Winter Session.

**Diseases of the Ear.** — Instruction is given by Mr. CLUTTON on Mondays at 12.30 p.m.

**Diseases of the Teeth.**—Mr. RANGER and Mr. TRUMAN give instruction in Dental Surgery on Tuesdays and Fridays at 10 a.m.

**Vaccination.**—Practical Instruction is given by Dr. CORY once a week.

NOTE.—St. Thomas's Hospital is now recognised as a Local Vaccination Station, and Dr. CORY is authorised to give certificates of instruction in Vaccination according to the requirements of the Local Government Board. Fee One Guinea.

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Post-Mortem Examinations by Dr. SHARKEY and Dr. HADDEN, and Pathological Demonstrations, daily at 2 p.m.

Practical Instruction in the Administration of **Anæsthetics** is given by Mr. TYRRELL and Mr. WHITE.

In addition to the Clinical Instruction given in the Wards and the Out-Patients' Rooms by the Medical and Surgical Officers, and the Special Course of Clinical Surgery, Lectures on Clinical Medicine and Surgery are delivered weekly during both the Winter and Summer Sessions by the Physicians and Surgeons to the Hospital.

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# SUGGESTIONS TO STUDENTS.

Gentlemen who propose to obtain the Licence of the Royal College of Physicians of London, the Diploma of Member of the Royal College of Surgeons of England, or the Licence of the Society of Apothecaries, must, in order to be able to register their attendance upon Hospital practice or lectures, possess the certificate in Arts granted by one of the bodies whose certificates are recognised by the General Medical Council. The Regulations of the Medical Council as to the registration of Medical Students contain particulars of the Preliminary Examinations, and can be had from Spottiswoode & Co., 30, Parliament Street, S.W.

Students intending to obtain Medical Degrees in the University of London must pass both the Matriculation * and the Preliminary Scientific Examinations before commencing their regular Medical Studies.

For the Preliminary Scientific, and the Intermediate M.B. Examinations, Special Classes are held (see p. 26). Students not proceeding to degrees in the University of London, will reap much advantage by acquiring, in the Preliminary Scientific Class, the scientific knowledge and training demanded by the University; both in respect to the formation of a sound foundation for Medical Study and because such knowledge is necessary in competing for the Entrance Science Scholarships.

Students proposing to enter should put themselves, at an early period, in communication with the Medical Secretary, who will be always ready to advise them. It is necessary, when writing to him, to state what Preliminary Examination has been passed, and if the Student's name has been registered at the Medical Council Office.

Students on joining must produce a Certificate of Preliminary Examination or of Registration. It is best to join at the beginning of a Session, Winter or Summer, but it is in the power of a Student to enter at any time.

Students are not obliged to remain at the Hospital more than three years, provided they have obtained the certificates of attendance upon lectures required by the respective licensing bodies. They must, however, in the event of leaving the Hospital, be engaged during the fourth year in the acquisition of professional knowledge elsewhere.

It is right, however, that Students should be made aware that the loss of the fourth year of Hospital Study is strongly to be deprecated, since

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* *Candidates who passed the Matriculation Examination in January*, 1885, *or previously, will be allowed to date the commencement of their Professional Studies from that Examination in accordance with former Regulations.*—University of London Calendar 1885-6, p. 159, Note.

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at that period the necessity for attending Lectures has ceased, and their whole time can be spent in the study of disease in the wards of the Hospital.

Students, when qualified, are advised to use every effort to obtain the Senior appointments open to them, especially those of Assistant House Physician, House Physician, Assistant House Surgeon, House Surgeon, and Resident Accoucheur. These appointments are accessible to Students of the Hospital without payment, and offer opportunities for obtaining practical professional knowledge, which cannot be estimated too highly.

Students are recommended to attend the Lectures, &c., in the following order; and, in accordance with the Regulations of the Qualifying Bodies, are required to show by their answers in the Sessional Examinations, that they have paid proper attention to the Lectures in each Course.

## FIRST YEAR.

*Winter Session.*—Anatomy, Dissections, Physiology, Chemistry.

*Summer Session.*—Materia Medica, Botany, Practical Physiology, Practical Chemistry.

## SECOND YEAR.

*Winter Session.*—Anatomy, Physiology, Dissections, Practical Surgery, Clinical Medicine, Clinical Surgery.

*Summer Session.*—Midwifery, Comparative Anatomy, Clinical Medicine, Clinical Surgery.

*N.B.—Students should defer further attendance on Lectures until they shall have passed the Second Examination of the Examining Board in England.*

## THIRD YEAR.

*Winter Session.*—Medicine, Surgery, Clinical Medicine, Clinical Surgery.

*Summer Session.*—Forensic Medicine, Pathological Anatomy, Clinical Medicine, Clinical Surgery.

In addition to the above, Students are advised, during their first Winter Session, to attend the Lectures on Physics and Natural Philosophy; in their third or fourth Summer Session, to attend the extra Course of Practical and Manipulative Surgery; and the Lectures on Mental Disease, and on State Medicine; and in the third or fourth Winter the Practical Course of Pathological Anatomy, and the Obstetric Demonstrations. The Course on Diseases of the Eye, and the teaching in the Eye Department should be attended in the third and fourth years. All these Courses are freely open to Students of the Hospital.

They are also strongly recommended to devote, during the whole period of their attendance at the Hospital, as much time as they can spare from other engagements, to Clinical study in the wards and in the out-patients' rooms.

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# FEES FOR ATTENDANCE ON THE LECTURES AND ON THE PRACTICE OF THE HOSPITAL.

## PERPETUAL TICKETS.

*Admitting to Hospital Practice and Lectures for an unlimited period.*

The Perpetual Fee to Hospital Practice and Lectures may be paid in several ways:

1st. One Hundred and Twenty-five Pounds paid on entrance;

2nd. One Hundred and Thirty-five pounds in two payments, £75 on entrance, and £60 at the beginning of the next year;

3rd. Payment by three instalments, viz., of £65 at the beginning of the first year, £50 at the beginning of the second year, and £30 at the beginning of the third year.

Gentlemen entering at St. Thomas's in the second* year of their Studentship pay £65 for that year; £25 for the third year; or upon paying £85 on entrance, they will become Perpetual Students. Students entering in their third year pay £40; for the next year £20, or one payment of £55 on entrance will entitle them to be Perpetual Students.

The Fee for attendance on the *general* subjects required of Students in Dental Surgery, is for the two years, £55, or by instalments, £50 for the first year, and £10 for the second year. If certificates for *Dental* practice are also required, the special fee for that subject (page 25) has to be paid.

Regularly qualified Medical Practitioners are admitted to the Hospital practice, and to the Lectures and Library, on payment of a fee of £12. 10*s.* for unlimited attendance; but are not entitled to receive certificates for such attendance without payment for the special certificates required (see p. 25).

All privileges in respect of Hospital attendance are granted subject to the approval of the Governors, and Students must conform to the regulations of the Hospital and Medical School, on which understanding alone cards of attendance are granted.

## EXTRA CHARGES.

Students are now supplied with chemicals and materials to work with in the courses of Chemistry and Physiology

* Students who have commenced the study of the Profession otherwise than by attendance at a Medical School, will be considered to be first year's Students on joining the Medical School, as the time previously spent does not count until three years' Lectures have been attended, but a deduction from the Perpetual Fee will be allowed in such cases.

NOTE.—Cheques may be made payable to the Medical Secretary, and crossed "London and County Bank, Lambeth."

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without extra charge, but there are certain instruments and materials required during the course of study, as follows, viz.:

Those attending the Class of Practical Physiology in the summer must provide themselves with Microscopes.

Students Dissecting pay for the parts they dissect at fixed rates, which are notified in the Library.

The Clinical Clerks must provide themselves with a Stethoscope and Registering Clinical Thermometer. The Dressers are required to have a Registering Clinical Thermometer, a Pocket Case of Instruments, and a Case of Silver Catheters.

The fee for Practical Pharmacy is not included in the Perpetual fee, as many Students have received instruction in it before joining a Medical School; but instruction in Pharmacy and Pharmaceutical Manipulation, to meet the requirements of the Royal Colleges of Physicians and Surgeons, and of the Society of Apothecaries, is given in the Dispensary of the Hospital by the Apothecary, Mr. S. PLOWMAN. The fee for this course is 5 Guineas for three months. Application to be made to the Medical Secretary.

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**The different Courses of Lectures, or the Hospital Practice, may also be attended separately on the following terms, which entitle to Certificates for such Attendances.**

***For the Medical and Surgical Practice, including Clinical Lectures and the Special Departments.***

| | | | |
|---|---|---|---|
| Three months .. .. .. .. | £15 | Twelve months .. .. .. | £40 |
| Six ditto .. .. .. .. | £26 | Perpetual .. .. .. | £55 |
| Nine ditto .. .. .. .. | £35 | | |

Dental Practice, 1 year 2 Gs., Perpetual 3 Gs.

Midwifery Practice, 5 Gs. Ophthalmic Practice, 2 Gs.

| *For Lectures and Demonstrations.* | 1 *Course.* | *Perpetual.* |
|---|---|---|
| Medicine, Surgery, Physiology, Anatomy, Chemistry each | 7 Gs. | ..10 Gs. |
| Midwifery .. .. .. .. .. .. .. .. .. | 5 „ | .. 6 „ |
| Materia Medica, Botany, Physics, Forensic Medicine, General Pathology, and Comparative Anaty. each | 4 „ | .. 5 „ |
| Mental Diseases, Diseases of the Eye, State Medicine each | 2 „ | .. 3 „ |
| * Practical Chemistry, Practical Surgery, Practical Physiology, Pathological Anatomy, including the Practical Course .. .. .. .. .. .. each | 6 „ | — |

Dissections, three months 4 Gs., six months 6 Gs., Perpetual 10 Gs.

Operative Surgery—A voluntary class will be formed by Messrs. MACKELLAR and CLUTTON during the Summer, and at other convenient times, for Gentlemen who wish to prepare for the Fellowship or other Examinations. This course will not include Operations on the Eye-ball. Fee, £5 5s.

Operative Surgery of the Eye.—A voluntary class will be formed by Mr. NETTLESHIP during the Summer. Fee, £2 2s.

Diseases of the Skin.—The Lectures on this subject are open to Gentlemen, not Students of the Hospital, by special arrangement.

Laryngology.—A special course is given by Dr. SEMON during the Winter Session. Fee for Gentlemen, not Students of the Hospital, 3 Gs.

Special Courses of Obstetric Demonstrations are given by Dr. CORY throughout the year. Fee, £3 3s.

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* These amounts do not include the extra charges in the Practical Courses for Materials, Instruments, &c.

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# UNIVERSITY OF LONDON.

## PRELIMINARY SCIENTIFIC AND INTERMEDIATE M.B. CLASSES.

## PRELIMINARY SCIENTIFIC EXAMINATION.

Special Classes in the subjects required for the Preliminary Scientific Examination at the University of London, will be held from October to July.

| | Mon. | Tues. | Wed. | Thurs. | Fri. | Sat. |
|---|---|---|---|---|---|---|
| Botany. A. W. BENNETT, M.A. .. .. | — | — | 11 | — | — | — |
| Chemistry, Inorganic } Dr. BERNAYS | Winter 11.30 | — | — | — | — | — |
| „ Practical } Dr. BERNAYS | Summer 11 | — | — | 12 | — | — |
| | — | — | — | Winter 11.30 | | — |
| Physics. W. H. STONE, M.A., M.B. | — | — | — | — | Jan to Mar 3 | Winter 12 / Summer 1 |
| Zoology. G. Gulliver, M.A., M.B. .. | — | Winter 1·30 | — | — | — | Summer 11 |

N.B.—A Microscope and simple Dissecting Apparatus must be provided by each Member of the Class.

The Fee charged to Students of the Hospital for instruction in the above is* .. .. .. .. .. *Six Guineas.*
To others, inclusive of Practical Chemistry and Chemicals .. .. .. .. .. .. .. .. .. *Twelve Guineas.*
Fee for any single subject .. .. .. .. .. .. .. *Three Guineas.*
Subsequent Courses, half Fee.

* Instruction in Practical Chemistry is necessary for this Examination. This, so far as Students of the Hospital are concerned, is held to be given in the course of Practical Chemistry attended by all Students in their first Summer, the requirements of the University being specially regarded in this Course, but Students requiring a Second Course of Practical Chemistry, are charged .. .. .. .. .. .. *A Guinea and a-half for Chemicals.*

## INTERMEDIATE EXAMINATION IN MEDICINE.

Special Classes in the subjects required for this Examination are held from January to July.

| | Mon. | Tues. | Wed. | Thurs. | Fri. | Sat. |
|---|---|---|---|---|---|---|
| Anatomy. R. W. REID, C.M. .. .. .. | 11 | — | — | 11 | — | — |
| Materia Medica and Pharmaceutical Chemistry. } S. PLOWMAN, M.R.C.S. | — | 2.30 | — | — | — | — |
| Organic Chemistry } Dr. BERNAYS. .. | — | — | 10·30 | — | — | — |
| Organic Analysis } Dr. BERNAYS. .. | — | — | — | — | — | 10 |
| Physiology. T. C. CHARLES, M.D. .. | — | — | — | — | Winter 2 / Summer 1 | — |

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| | |
|---|---|
| Fee to Students of the Hospital inclusive of Organic Analysis and Chemicals* .. .. .. | *Nine Guineas.* |
| To others ditto .. .. .. .. .. | *Twelve Guineas.* |
| Fee for any Single Subject .. .. .. .. .. | *Three Guineas.* |

Subsequent Courses, half Fee (except Chemicals, for which full fee is charged).

* Instruction and Practice in Organic Analysis is essential for this Examination.

*N.B.—Private Classes are held for the Final M.B. Examination.*

## SCHOLARSHIPS, PRIZES, APPOINTMENTS, AND HONORARY DISTINCTIONS.

### OPEN SCHOLARSHIPS IN NATURAL SCIENCE.

As an inducement to the study of Natural Science before the commencement of the strictly Medical Course, two Scholarships, of the value of £100 and £60 respectively, are awarded annually, after an examination in Physics, Chemistry, and either Botany or Zoology, at the option of Candidates. The Examinations for these Scholarships will be held on October 5th, 6th, and 7th, 1885, the subjects being the same as those for honours in the Preliminary Scientific Examination of the London University, viz.: Botany, Zoology, Inorganic Chemistry (including Practical Chemistry), and Physics or Natural Philosophy. These Scholarships are open to all Students who have passed a recognised Preliminary Examination in Arts, and have not yet attended Lectures on Anatomy and Physiology of the first year, without any condition as to their becoming Students of the Hospital, except in the case of successful Candidates, who must enter at once as Perpetual Pupils. Chemistry and Physics are compulsory subjects for this Examination, and Candidates must take up one of the other subjects at their option. The Examination will be conducted by means of written papers and practical work. The names of Competitors with Certificate of Preliminary Examination must be sent to the Secretary not later than September 30th.

### THE WILLIAM TITE SCHOLARSHIP.

This Scholarship, founded by the late Sir W. Tite, C.B., M.P., F.R.S., and endowed with £1,000 Consols, producing £30 per Annum, is awarded each year to the Student placed highest in the 1st Class List in the examinations at the end of the first Winter Session. Preference, in case of equality between Students, is to be given to the son of a medical man, and more particularly of one who has been educated at St. Thomas's Hospital or is in Practice in Bath.

### THE MUSGROVE SCHOLARSHIP.

This Scholarship, founded by Sir John Musgrove, Bart., the late President of the Hospital, and endowed with £1,400 Consols, producing 40 Guineas per Annum, is awarded biennially to the Student who shall take the highest place in the 1st Class List in the examinations at the end of the Second Winter Session. It is tenable for two years, provided the holder obtains a place in the 1st Class in the Examinations at the end of the third winter.

### THE PEACOCK SCHOLARSHIP.

This Scholarship, founded by the will of the late Dr. Thomas Bevill Peacock, for many years Physician, and at the time of his death Consulting Physician, to St. Thomas's Hospital, is of the same value as the Musgrove Scholarship, is awarded and held upon the same terms; and is given every second year in alternation with that Scholarship.

*Gentlemen obtaining these Scholarships are not precluded from receiving any of the Prizes awarded at the subsequent periodical examinations.*

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# PRIZES.

The following Scholarships, Prizes, and Medals, will be offered for Competition during the year 1885–1886:—

TWO OPEN SCHOLARSHIPS IN NATURAL SCIENCE of the value of £100 and £60 respectively, at Entrance.

AT THE END OF FIRST YEAR.

*Winter.*

| | | | |
|---|---|---|---|
| 1st. | .. | The William Tite Scholarship .. .. .. | £30. |
| 2nd. | .. | College Prize .. .. .. .. .. .. | £20. |
| 3rd. | .. | Ditto .. .. .. .. .. .. | £10. |

*Summer.*

| | | | |
|---|---|---|---|
| 1st. | .. | College Prize .. .. .. .. .. .. | £15. |
| 2nd. | .. | Ditto .. .. .. .. .. .. | £10. |

SECOND YEAR.

*Winter.*

| | | | |
|---|---|---|---|
| 1st. | .. | The Peacock Scholarship .. .. .. | £42. |
| 2nd. | .. | College Prize .. .. .. .. .. .. | £20. |
| 3rd. | .. | Ditto .. .. .. .. .. .. | £10. |

*Summer.*

| | | | |
|---|---|---|---|
| 1st. | .. | College Prize .. .. .. .. .. .. | £15. |
| 2nd. | .. | Ditto .. .. .. .. .. .. | £10. |

THIRD YEAR.

*Winter.*

| | | | |
|---|---|---|---|
| | | Second Tenure of The Musgrove Scholarship (if holder obtains 1st Class) in this examination | £42. |
| 1st. | .. | College Prize .. .. .. .. .. .. | £20. |
| 2nd. | .. | Ditto .. .. .. .. .. .. .. | £15. |
| 3rd. | .. | Ditto .. .. .. .. .. .. .. | £10. |

*Summer.*

| | | | |
|---|---|---|---|
| 1st. | .. | College Prize .. .. .. .. .. .. | £15. |
| 2nd. | .. | Ditto .. .. .. .. .. .. .. | £10. |

Students of each year are classed according to their respective merits in the examinations, and those in the *first* class in each year receive Certificates of Honour, and a preference in the selection for Hospital Appointments.

In addition there are awarded—

THE CHESELDEN MEDAL, *Annually.*
THE MEAD MEDAL, *do.*
THE SOLLY MEDAL AND PRIZE, *Biennially.*
THE GRAINGER TESTIMONIAL PRIZE, *do.*
THE TREASURER'S GOLD MEDAL, *Annually.*

The CHESELDEN MEDAL, founded by the late GEORGE VAUGHAN, Esq., is annually awarded to the Fourth Year's Student who most distinguishes himself in respect of a Special Practical Examination in Surgery and Surgical Anatomy.

The MEAD MEDAL, founded by Mr. and Mrs. NEWMAN SMITH, is awarded annually, to a Fourth Year's Student, in respect of a Special Practical Examination in Medicine, Pathology and Hygiene.

Competitors for either of these Medals must have been Students of St. Thomas's for at least two out of the four Winter Sessions.

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The SOLLY MEDAL, together with a Prize in Money, will be awarded biennially. Those Students are eligible to compete who shall be of from three to six years' standing. The award is made for the best series of Reports of Surgical cases coming under the Students' personal observation in the Wards, not, however, to exceed ten in number. Preference is given, merit in other respects being equal, to Reports illustrated by the author's drawings, and short Clinical Remarks must accompany each Report. The next award will be made at the end of 1885–86, papers to be sent in before April 1st, 1886.

The GRAINGER TESTIMONIAL PRIZE, of the value of Twenty Pounds, is awarded biennially to Students who shall be of from three to six years' standing, for the best Anatomical and Physiological Essay, to be illustrated by preparations and dissections. Competitors for this Prize must be Medical Students of St. Thomas's Hospital, and on the day of sending in their Essays, Dissections, and Preparations, shall have completed the Second, and not more than the sixth year of their medical studies. The next award will be made in 1886, papers to be sent in before October 1st, 1886. Subject:—A series of Preparations and Dissections, accompanied by an Essay, illustrating the Anatomy and Physiology of the Knee, Ankle, and Tarsal Joints.

The TREASURER'S GOLD MEDAL for General Proficiency and Good Conduct, is awarded at the end of the 4th Winter Session to the Student who has passed through his pupilage in St. Thomas's Hospital in the most meritorious manner.

## APPOINTMENTS.

Two RESIDENT and one NON-RESIDENT HOUSE PHYSICIANS, an ASSISTANT HOUSE PHYSICIAN, Two HOUSE SURGEONS, an ASSISTANT HOUSE SURGEON, and a RESIDENT ACCOUCHEUR, are selected every three months from Gentlemen who have obtained their professional diplomas; they hold office for three or six months. One House Physician, the Assistant House Physician, and the Assistant House Surgeon, are non-resident, but the other Officers, together with the Dressers and Obstetric Clerks, are provided with Rooms and Commons during their period of attendance in the Hospital, free of expense.

AN OPHTHALMIC CLINICAL ASSISTANT, chosen from Qualified Students who have worked satisfactorily in the Ophthalmic Department, is appointed for six months with a Salary at the rate of £50 per annum, with board but not residence; the appointment is renewable for a limited period.

CLINICAL ASSISTANTS in the Special Departments for Diseases of the Skin, Throat, and Ear, are appointed every three months.

CLINICAL CLERKS, and DRESSERS, to In-Patients are selected to the number of at least 100 each year. They are chosen from amongst the most eligible pupils. CLINICAL CLERKS, and DRESSERS, for the Out-Patients are also appointed to the number of at least 80 to 100 each year.

ALL STUDENTS have the opportunity afforded them of being engaged in the performance of practical duties in connection with the Medical, Surgical, Obstetrical, Ophthalmic, and Pathological Departments of the Hospital.

Two HOSPITAL REGISTRARS, at an annual Salary of £100 each, are appointed in each year. Preference will be given to Gentlemen who have been distinguished for merit, and have completed their studies in the School. The payment of the Registrars is subject to the presentation of a Report upon the Practice of the Hospital, and to such Report being regarded as satisfactory by the Medical Officers to whom it shall have been referred.

TWO OR MORE STUDENTS are selected from those who have completed their Second Winter Session, to act as Assistants in the Physiological Laboratory. They receive Certificates of Honour according to merit.

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PROSECTORS are appointed in the early part of the Winter Session, and Certificates of Honour are awarded to the best Dissectors.

STUDENTS are likewise appointed to act as Assistants to the Demonstrators of Pathological Anatomy in the Post-mortem Room.

OBSTETRIC CLERKS, who reside and have Commons in the Hospital, are appointed in rotation. Each holds office for a fortnight, and Certificates of Honour are awarded to those Gentlemen who have satisfactorily attended Sixty Maternity cases.

Students have access, with the permission of the Officers under whose superintendence they are placed, to the Museums of Human and Comparative Anatomy and Pathology—of Materia Medica—of Botany— and of Chemistry and Mineralogy—and to the Laboratories of Practical Physiology and Practical Chemistry; also to the Library, which contains a large collection of works of reference and modern text-books.

## REGULATIONS FOR THE EXAMINATION AND CLASSIFICATION OF THE STUDENTS.

1. In accordance with the Regulations of the Qualifying Bodies, Students will be required to attend the Class Examinations in the subjects for which they have to be certified, and show by their answers to the questions that they have paid proper attention to the Lectures, otherwise their Schedules cannot be signed.

2. There shall be held at least two Examinations in each Winter and one in each Summer Session in each subject on which attendance is required during that Session, and the marks obtained in these Examinations shall be the basis for the Classification of Students and the Award of Prizes for each Session respectively. Provided that any extra Examination in the course of the Session, in any subject, be not allowed to interfere with the ordinary Lectures in other subjects.

3. The number of marks allotted to each subject in the following Schedule is not to be exceeded in case the number of Examinations held during the Session be more than two, but must be distributed amongst the several Examinations.

| | | |
|---|---|---|
| **1st YEAR'S SUBJECTS.** | | |
| WINTER | Anatomy | 600 |
| | Practical Anatomy | 200 |
| | Physiology | 600 |
| | Chemistry | 600 |
| | Total | 2000 |
| SUMMER | Practical Chemistry | 300 |
| | Materia Medica | 300 |
| | Botany | 150 |
| | Practical Physiology | 300 |
| | Total | 1050 |
| **2nd YEAR'S SUBJECTS.** | | |
| WINTER | Anatomy | 600 |
| | Practical Anatomy | 200 |
| | Physiology | 600 |
| | Practical Surgery | 200 |
| | Total | 1600 |
| SUMMER | Midwifery | 500 |
| | Comparative Anatomy | 100 |
| | Total | 600 |
| **3rd YEAR'S SUBJECTS.** | | |
| WINTER | Medicine | 650 |
| | Surgery | 650 |
| | Total | 1300 |
| SUMMER | Forensic Medicine | 250 |
| | Pathological Anatomy | 350 |
| | Total | 600 |

4. All Students who have obtained at least one-third of the total number of marks in each subject, and not less than two-thirds of the total number allotted to all the subjects collectively, shall be placed in the 1st Class.

Those who have obtained one-third of the total number of marks allotted to all the subjects collectively shall be placed in the 2nd Class.

The names of those who do not obtain either a 1st or 2nd Class position will not be published, but a General List showing the exact position of each Student at every Examination shall be kept by the Secretary, from whom any Student can learn his own position, but no Lecturer shall make known to Students the number of marks obtained by any Student in any subject.

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5. The Prizes shall be awarded to the Students holding the 1st, 2nd, and 3rd positions in the 1st Class of each Winter Session, and to those holding the 1st and 2nd positions of the 1st Class in each Summer Session.

6. The number of marks allotted to the Examinations for the MEAD and CHESELDEN Medals shall be 600 each.

7. In awarding the TREASURER'S Medal the number of marks obtained at the Sessional Examinations and in the MEAD and CHESELDEN Examinations shall be counted, provided that, as regards the Examination for the Medals, two-thirds of the maximum marks be obtained, but those obtained in the Entrance Scholarship Competition shall not be included.

8. The Authorities reserve the right of withholding any Prize, if no competitor of sufficient merit presents himself.

# Distribution of Prizes for the Past Sessions.

## SUMMER SESSION, 1884.

### FIRST YEAR'S STUDENTS.

| | |
|---|---|
| F. FAWSSETT, *Surbiton* ... ... ... ... ... | College Prize, £15, and Certificate of Honour. |
| W. W. OED, *Brook Street* ... ... ... ... ... | College Prize, £10, and Certificate of Honour. |
| C. W. COOKE, *St. George's Terrace, Regent's Park* | Certificate of Honour. |
| W. H. COOPER, *Pattingham, Staffordshire* ... | Certificate of Honour. |
| G. R. ANDERSON, *East India Road* ... ... ... | Certificate of Honour. |
| C. H. ECCLES, *Brigg, Lincolnshire* ... ... ... | Certificate of Honour. |

### SECOND YEAR'S STUDENTS.

| | |
|---|---|
| E. C. STABB, *Ilfracombe* ... ... ... ... ... | College Prize, £15, and Certificate of Honour. |
| H. J. SMYTH, *West Hampstead* ... ... ... ... | College Prize, £10, and Certificate of Honour. |
| J. D. BALLANCE, *Harley Street* ... ... ... ... | Certificate of Honour. |
| T. H GODFREY, *Northampton* ... ... ... ... | Certificate of Honour. |
| C. H. JAMES, *Fyzabad, India* ... ... ... ... | Certificate of Honour. |

### THIRD YEAR'S STUDENTS.

| | |
|---|---|
| Æq. S. H. JONES, *George Street, Hanover Square* / J. S. HUTTON, *Forest Hill* ... ... ... | College Prize, £15, and Certificate of Honour. / College Prize, £10, and Certificate of Honour. |
| S. A. COPEMAN, *Norwich* ... ... ... ... ... | Certificate of Honour. |
| F. E. NICHOL, *Roupell Park* ... ... ... ... | Certificate of Honour. |
| K. TOTSUKA, *Tokio, Japan* ... ... ... ... ... | Certificate of Honour. |

## WINTER SESSION, 1884-85.

### ENTRANCE SCIENCE SCHOLARSHIPS.

| | |
|---|---|
| F. C. ABBOTT, *Gorleston* ... ... ... ... ... | Scholarship, £100, and Certificate of Honour. |
| C. J. MARTIN, *Dalston* ... ... ... ... ... ... | Scholarship, £60, and Certificate of Honour. |

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## FIRST YEAR'S STUDENTS.

F. C. Abbott, *Gorleston* ... ... ... ... ... — The Wm. Tite Scholarship, £30. and Certificate of Honour.

Æq. E. A. Roberts, *Birmingham* ... — College Prize, £20. and Certificate of Honour.

Æq. T. P. Cowen, *Upper Holloway* ... — College Prize, £10. and Certificate of Honour.

H. Gervis, *Harley Street* ... ... ... ... ... — Certificate of Honour.
H. T. Turney, *Camberwell Grove* ... ... ... — Certificate of Honour.
H. H. Hulbert, *Highworth*... ... ... ... ... — Certificate of Honour.
P. C. Thomas, *Chelsea* ... ... ... ... ... ... — Certificate of Honour.
G. E. Weaby, *Devonport* ... ... ... ... ... — Certificate of Honour.
A. J. Adkins, *Banbury* ... ... ... ... ... — Certificate of Honour.
E. A. Stedman, *Great Bookham* ... ... ... — Certificate of Honour.
F. Barker, *Heighinton*... ... ... ... ... ... — Certificate of Honour.
A. N. Boycott, *Rugeley* ... ... ... ... ... — Certificate of Honour.
R. H. Tompsett, *Crewkerne* ... ... ... ... — Certificate of Honour.
W. E. Roth, *Wimpole Street* ... ... ... ... — Certificate of Honour.
F. E. Forward, *Chard*... ... ... ... ... ... — Certificate of Honour.

## SECOND YEAR'S STUDENTS.

F. Fawssett, *Surbiton*... ... ... ... ... ... — The Musgrove Scholarship, 40 Gs. and Certificate of Honour.

C. H. Eccles, *Brigg* ... ... ... ... ... ... — College Prize, £20. and Certificate of Honour.

Æq. R. V. Solly, *Congleton* ... ... ... — College Prize, £10, and Certificate of Honour.

Æq. W. W. Ord, *Brook Street* ... ...

G. R. Anderson, *East India Road* ... ... ... — Certificate of Honour.
H. H. Heffernan, *Southsea* ... ... ... ... — Certificate of Honour.
C. H. James, *Fyzabad, India* ... ... ... ... — Certificate of Honour.
E. Hobhouse, *Bath* ... ... ... ... ... ... — Certificate of Honour.
R. J. Langley, *Reading* ... ... ... ... ... — Certificate of Honour.
C. W. Cooke, *Regent's Park* ... ... ... ... — Certificate of Honour.
H. C. Bristowe, *Old Burlington Street* ... ... — Certificate of Honour.

## THIRD YEAR'S STUDENTS.

H. P. Hawkins, *Lamberhurst, Hawkhurst* ... — 2nd Tenure of the Peacock Scholarship, 40 Gs, with College Prize, £20, and Certificate of Honour.

Æq. H. J. Macevoy, *Chantilly* ... ... — College Prize, £15 and Certificate of Honour.

Æq. J. H. Tonking, *Camborne* ... ... — College Prize, £10, and Certificate of Honour.

H. J. Smyth, *West Hampstead* ... ... ... ... — Certificate of Honour.
S. W. Wheaton, *Battersea Park* ... ... ... — Certificate of Honour.

## ANATOMICAL ASSISTANTS.

L. A. Bidwell, *Blackheath*... ... ... ... ... — Certificate of Honour.
W. F. Brook, *Fareham* ... ... ... ... ... — Certificate of Honour.
H. Duncan, *London* ... ... ... ... ... ... — Certificate of Honour.
E. C. Stabb, *Ilfracombe* ... ... ... ... ... — Certificate of Honour.
H. J. Smyth, *West Hampstead* ... ... ... ... — Certificate of Honour.
S. W. Wheaton, *Battersea Park* ... ... ... — Certificate of Honour.

## PROSECTORS.

H. C. Bristowe, *Old Burlington Street* ... ... — Certificate of Honour.
C. W. Cooke, *Regent's Park* ... ... ... ... — Certificate of Honour
F. Fawssett, *Surbiton* ... ... ... ... ... ... — Certificate of Honour.
H. H. Heffernan, *Southsea* ... ... ... ... — Certificate of Honour.
C. H. James, *India* ... ... ... ... ... ... — Certificate of Honour.
R. J. Langley, *Reading* ... ... ... ... ... — Certificate of Honour.
W. W. Ord, *Brook Street* ... ... ... ... ... — Certificate of Honour.
R. V. Solly, *Congleton*... ... ... ... ... ... — Certificate of Honour.

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## ASSISTANTS IN PHYSIOLOGICAL LABORATORY.

E. H. Crisp, London ... ... ... ... ... ... Certificate of Honour.
S. A. Copeman, Norwich ... ... ... ... ... Certificate of Honour.

## PRACTICAL MEDICINE.

F. D. Crowdy ... ... ... ... ... ... .. } The Mead Medal, founded by Mr. & Mrs. Newman Smith.
J. S. Hutton ... ... ... ... ... ... ... ... }
A. A. Brockat ... ... ... ... ... ... ... } Special Mention and Certificates of Honour.
H. C. Kidd ... ... ... ... ... .. ... ... }
A. J. H. Montague ... ... ... ...- ... ... }

## SURGERY AND SURGICAL ANATOMY.

S. H. Jones ... ... ... ... ... ... ... ... } The Cheselden Medal, founded by the late George Vaughan, Esq.
F. E. Nichol... ... ... ... ... ... ... ... } Special Mention and Certificate of Honour.

## RESIDENT ACCOUCHEURS.

J. Orford ... ... ... ... ... ... ... ... Certificate of Honour.
W. Hull ... ... ... ... ... ... ... ... Certificate of Honour.
C. D. Green ... ... ... ... ... ... ... ... Certificate of Honour.
G. D. Johnston ... ... ... ... ... ... ... Certificate of Honour.

## HOUSE PHYSICIANS.

G. D. Johnston ... ... ... ... ... ... ... Certificate of Honour.
F. F. Caiger ... ... ... ... ... ... ... ... Certificate of Honour.
H. B. Robinson ... ... ... ... ... ... ... Certificate of Honour.
H. W. G. Mackenzie ... ... ... ... ... ... Certificate of Honour.
F. W. S. Stone } Non-Resident { ... ... ... Certificate of Honour.
H. H. Lankester } Non-Resident { ... ... ... Certificate of Honour

## ASSISTANT HOUSE PHYSICIANS.

T. Scutt ... ... ... ... ... ... ... ... ... Certificate of Honour.
Y. Saneyoshi... ... ... ... ... ... ... ... Certificate of Honour.
R. Lawson ... ... ... ... ... ... ... ... Certificate of Honour.
H. W. G. Mackenzie ... ... ... ... ... ... Certificate of Honour.
R. M. Williams ... ... ... ... ... ... ... Certificate of Honour.

## HOUSE SURGEONS.

J. Orford ... ... ... ... ... ... ... ... Certificate of Honour.
H. B. Robinson ... ... ... ... ... ... ... Certificate of Honour.
W. Hull... ... ... ... ... ... ... ... Certificate of Honour.
C. D. Green ... ... ... ... ... ... ... ... Certificate of Honour.

## ASSISTANT HOUSE SURGEONS.

H. B. Robinson ... ... ... ... ... ... ... Certificate of Honour.
C. D. Green ... ... ... ... ... ... ... ... Certificate of Honour.
R. Lawson ... ... ... ... ... ... ... ... Certificate of Honour.
B. Relton ... ... ... ... ... ... ... ... Certificate of Honour.
Y. Saneyoshi ... ... ... ... ... ... ... ... Certificate of Honour.

## FOR GENERAL PROFICIENCY AND GOOD CONDUCT.

S. H. Jones ... ... ... ... ... ... ... ... } The Treasurer's Gold Medal.
J. S. Hutton ... ... ... ... Special Mention. Qualified to receive the Medal.

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Mr. C. S. Sherrington has been elected to the George Henry Lewes Physiological Studentship.



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# THE MUSEUM OF HUMAN AND COMPARATIVE ANATOMY AND PATHOLOGY.

*Curator.*—S. G. SHATTOCK, Esq., F.R.C.S.

Among the earliest contributors to this Museum were Mr. CLINE, Sir A. COOPER, Mr. TRAVERS, and Mr. TYRRELL.

The Printed Catalogue of the Museum consists of three octavo volumes: in the first volume, edited by Mr. JOHN F. SOUTH, are described the preparations of Healthy Human, Microscopical, and Comparative Anatomy; and the 2nd and 3rd volumes, edited by Mr. SYDNEY JONES, contain descriptions of the specimens illustrative of Pathological Anatomy.

The COLLECTION of HUMAN ANATOMY consists of a Physiological and a Pathological Department: the former contains, besides wax models and casts, a large number of dissected Preparations, illustrating the Organs of Locomotion and Sense; the Nervous System; the Digestive, Respiratory, and Urinary Apparatus; the Vascular System, the Organs of Reproduction, and the tissues.

The Pathological Division is very rich, containing above 3000 Specimens, arranged in thirty-seven Sections, as follows:

SECT.
A. Injuries of Bone: Fractures.
B. Injuries of Joints: Dislocations.
C. Diseases of Bone.
D. Diseases of Joints.
E. Diseases of the Spinal Column.
F. Injuries and Diseases of the Muscular System.
G. Injuries and Diseases of the Eye.
H. Injuries and Diseases of the Ear.
I. Injuries and Diseases of the Nose, Antrum, &c.
K. Injuries and Diseases of the Skin and Subcutaneous Cellular Tissue.
L. Injuries of the Skull.
M. Injuries of the Spine.
N. Injuries and Diseases of the Nervous System.
O. Injuries and Diseases of Mouth, Fauces, Pharynx, and the Œsophagus.
P. Injuries and Diseases of the Stomach.
Q. Injuries and Diseases of the Intestines and Peritoneum.
R. Intussusception, Internal Strangulation, and Hernia.
S. Injuries and Diseases of the Liver.
T. Diseases of the Pancreas and Salivary Glands.
U. Injuries and Diseases of the Spleen.
V. Diseases of Thyroid, Thymus, and Suprarenal Capsules.

SECT.
W. Injuries and Diseases of the Respiratory Apparatus.
X. Injuries and Diseases of the Heart and Pericardium.
Y. Injuries and Diseases of Arteries and Veins.
Z. Diseases of Lymphatic and Lacteal Vessels and Glands.
AA. Injuries and Diseases of the Kidneys, and Ureters.
BB. Injuries and Diseases of the Bladder.
CC. Diseases of the Prostrate Gland and Vesiculæ Seminales, Urinary and Prostratic Calculi.
DD. Injuries and Diseases of the Penis and Urethra.
EE. Injuries and Diseases of the Testicles and Scrotum.
FF. Diseases of the Ovaries and Fallopian Tubes.
GG. Injuries and Diseases of the Uterus, Vagina, and external organs.
HH. Diseases and displacements of the Ovum.
II. Diseases of the Breast.
KK. Tumours and other allied Morbid Growths.
LL. Malformations.
MM. Wax Models and Casts.

BONES, JOINTS, &c.—Amongst the specimens illustrating Injuries of Bones and Joints, are nearly all those described and figured in Sir A. Cooper's Treatise on 'Dislocations and Fractures of the Joints,' and in Cooper's and Travers's 'Surgical Essays.'

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This section has been much enriched by Sir William MacCormac, who presented numerous specimens of gunshot injuries, chiefly fractures, obtained from cases under his care during the Franco-German War.

Sir A. Cooper's preparations, illustrating repair after fracture, are contained in this Section.

Eye.—This Section has been arranged by Mr. Dixon, and contains specimens described and figured by Sir A. Cooper, Mr. Travers, and Mr. Saunders.

Skin.—Several Tumours are contained in this Section, as well as, amongst others, that horny growth, ten inches in length, removed from a man's forehead by Sir A. Cooper.

Head, Spine, Nervous System.—Showing all kinds of Injuries to the Skull; Spinal Injuries, which have been subjected to operation by Cline, Tyrrell, and South, as well as every variety, frequent and rare, of disease of the Nervous System.

Intestines and Peritoneum.—Travers's Preparations, illustrating 'The Process of Nature in repairing Injuries of the Intestines,' are contained in this Section. There are also Specimens illustrating the Morbid Anatomy of Fever, &c.

Hernia.—This Section contains nearly all the Preparations figured and described in 'Cooper's Hernia.' Besides the more common varieties of Hernia, there are Specimens of Mesenteric, Mesocolic, Vesical, Thyroideal, Ischiatic, Perineal, and Phrenic Hernia.

Liver.—Besides every variety of Hepatic Disease, this Section contains a large number of Biliary Calculi, many of which have been presented by Dr. Ord. Several specimens of Actinomycosis are also contained in it.

Respiratory and Vascular Systems.—Amongst these Preparations are two Specimens, showing ligature of the Abdominal Aorta; one of them the case of Sir A. Cooper; the other that of Mr. John F. South. There are also Specimens of spontaneous obliteration of the Aorta.

The Preparations illustrative of Travers's experiments on Arteries and Veins are in the collection.

There are also very interesting Specimens of Diseased Heart, described by Dr. Wells and Dr. Elliotson.

Kidneys.—Described and arranged by Mr. Simon.

Urinary Calculi.—250 in number—analysed by Mr. Heisch and Dr. Bernays.

Testes.—Most of the preparations figured in Sir A. Cooper's work 'On the Testis,' are contained in this Section.



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MALFORMATIONS.—This Section contains Specimens of Spina Bifida, Acephalous and double monsters, Ectopia Cordis, Malformations of the Heart, Urinary, and Generative Organs. Most of them have been elaborately described by Mr. R. D. Grainger, and the malformations of the heart are referred to by Dr. Farre and Dr. Peacock in their works. There are also very interesting specimens of malformation described by Dr. Bristowe, Mr. Le Gros Clark, and Mr. Sydney Jones.

The Museum contains a considerable number of valuable Ethnological Specimens.

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THE MUSEUM OF COMPARATIVE ANATOMY contains about 1,000 Preparations, some of them very rare and valuable.

A large number of these Specimens were made by Sir A. Cooper, to illustrate his Lectures, when Professor of Comparative Anatomy to the Royal College of Surgeons.

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THE CABINETS OF MICROSCOPICAL ANATOMY, which are under the charge of the Demonstrator of Practical Physiology, contain upwards of 2,000 injected and other Specimens of normal and morbid Histology, parasites, urinary deposits, &c. These include the Preparations made by Mr. Rainey, to illustrate the Histological Course of Lectures; and others described by him in Papers published in the Philosophical, Medico-Chirurgical, and Microscopical Transactions, and in various scientific works. The specimens are available for use by students who wish to examine them, subject to such regulations as may be deemed necessary.

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THE MATERIA MEDICA MUSEUM contains at least 600 specimens, arranged and labelled according to the British Pharmacopœia of 1867, and is now under the superintendence of Dr. Stone.

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THE MUSEUM OF CHEMISTRY AND MINERALOGY is under the Superintendence of Dr. Bernays, who founded the Museum and presented the larger part of the Specimens contained in it.

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# St. Thomas's Hospital.

## MEDICAL AND PHYSICAL SOCIETY.

*Hon. President*, 1885–86.

W. Anderson, Esq.

*Vice-Presidents.*

The Physicians.
The Assist.-Physicians.
S. G. Shattock, Esq.
Dr. Bernays.
Dr. Rayner.
Dr. Cranstoun Charles.

The Surgeons.
The Assist.-Surgeons.
Dr. A. Carpenter.
R. W. Reid, Esq.
Dr. Kilner.
C. E. Truman, Esq.

W. Edmunds, Esq.

*Hon. Secretaries.*

R. Lawson.
E. Solly.

*Committee.*

T. D. Acland, M.D.
C. A. Ballance, M.S.
F. A. Floyer, M.B.
S. Plowman.
W. H. C. Staveley.
T. E. Stuart.
F. Fawssett.
F. C. Abbott.

This Society was originated in the early part of the present century by students of the Hospital, and has for its object the reading and discussion of papers on Medicine, Surgery, and subjects of General Interest, the narration of cases, and the exhibition of specimens of Physiological and Pathological interest. The Meetings are held in the Library on alternate Thursdays at 8 P.M., and terminate not later than 10 P.M.

The soirée, to which past and present students are invited, is usually held in December, in the Grand Entrance Hall and Corridor of the Hospital.

Further information can be obtained of the Hon. Secretaries.

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# ST. THOMAS'S HOSPITAL REPORTS.

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## VOL. XIV., NEW SERIES,

EDITED BY

F. MASON, F.R.C.S., AND SEYMOUR J. SHARKEY, M.A., M.B. OXON.,

*Will be Published immediately.*

It will contain contributions from Members of the Staff and others, together with the Statistical Reports of the Hospital, by the Medical and Surgical Registrars, to December 31st, 1884.

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## OCTOBER, 1885.

| | | |
|---|---|---|
| 1 | Th | Introductory Address, 3 P.M. Annual Dinner. |
| 2 | F | |
| 3 | S | |
| 4 | S | Eighteenth Sunday after Trinity. |
| 5 | M | Entrance Scholarships Exam., 5th, 6th, & 7th. |
| 6 | Tu | Clinical Clerks and Dressers commence duty. |
| 7 | W | |
| 8 | Th | |
| 9 | F | |
| 10 | S | Last day for Certs. for M.B. Exam., Univ. Lond. |
| 11 | S | Nineteenth Sunday after Trinity. |
| 12 | M | |
| 13 | Tu | |
| 14 | W | |
| 15 | Th | |
| 16 | F | |
| 17 | S | |
| 18 | S | Twentieth Sunday after Trinity. St. Luke. |
| 19 | M | |
| 20 | Tu | |
| 21 | W | |
| 22 | Th | |
| 23 | F | |
| 24 | S | |
| 25 | S | Twenty-first Sunday after Trinity. |
| 26 | M | Univ. Lond. M.B. Exam. |
| 27 | Tu | |
| 28 | W | St. Simon and St. Jude. |
| 29 | Th | |
| 30 | F | |
| 31 | S | |

*The Hospital Entrance Science Scholarships Examination takes place during this month.*

*The Registration and Museum Committees meet during this month.*

*The Examinations of the Society of Apothecaries are held every Wednesday and Thursday.*

*First, Second, and Third Examinations of the Examining Board in England are held this month.*

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## NOVEMBER, 1885.

| | | |
|---|---|---|
| 1 | ☉ | Twenty-second Sunday after Trinity. All Saints. |
| 2 | M | |
| 3 | Tu | |
| 4 | W | Last day for applications for House offices, &c.* |
| 5 | Th | |
| 6 | F | |
| 7 | S | |
| 8 | ☉ | Twenty-third Sunday after Trinity. |
| 9 | M | Prince of Wales b., 1841. [and Surgical Registrarships. |
| 10 | Tu | *Notice*— 30th, last day for applications for Medical |
| 11 | W | Meeting to appoint House Officers, &c. |
| 12 | Th | |
| 13 | F | |
| 14 | S | |
| 15 | ☉ | Twenty-fourth Sunday after Trinity. |
| 16 | M | |
| 17 | Tu | Univ. Lond. M.B. Pass list published. |
| 18 | W | Univ. Lond. M.B. Honours Exam. |
| 19 | Th | |
| 20 | F | [Lond. |
| 21 | S | Last day for Certs. for M.D. and M.S. Exams., Univ. |
| 22 | ☉ | Twenty-fifth Sunday after Trinity. |
| 23 | M | |
| 24 | Tu | Last day for Certs. for B.S. Exam., Univ. Lond. |
| 25 | W | |
| 26 | Th | |
| 27 | F | |
| 28 | S | |
| 29 | ☉ | Advent Sunday. [and Surgical Registrarships. |
| 30 | M | Saint Andrew. Last day for applications for Medical |

* *Applications for these appointments to be made to the Medical Secretary, by letter, stating the Candidate's qualifications, the offices which he has previously held in the Hospital, and the number of Maternity Cases attended.*

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## DECEMBER, 1885.

| | | |
|---|---|---|
| 1 | Tu | House Officers, &c., commence duty. |
| 2 | W | Last day for applications for Clinical Clerkships and |
| 3 | Th | [Dresserships. |
| 4 | F | |
| 5 | S | |
| 6 | ☉ | Second Sunday in Advent. |
| 7 | M | Univ. Lond. M.D. and M.S. Exam. |
| 8 | Tu | Univ. Lond. B.S. Exam. |
| 9 | W | Meeting to appoint Clinical Clerks and Dressers. |
| 10 | Th | |
| 11 | F | |
| 12 | S | Last day for Certs. for Matric. Univ. Lond. |
| 13 | ☉ | Third Sunday in Advent. |
| 14 | M | |
| 15 | Tu | |
| 16 | W | 1st Sessional Examination commences. |
| 17 | Th | |
| 18 | F | Univ. Lond. M.D. List published. [Lond. |
| 19 | S | Last day for Notice for Prel. Sci. (M.B.) Exam. Univ. |
| 20 | ☉ | Fourth Sunday in Advent. |
| 21 | M | Saint Thomas. |
| 22 | Tu | |
| 23 | W | |
| 24 | Th | |
| 25 | F | Christmas Day. |
| 26 | S | Saint Stephen. |
| 27 | ☉ | First Sunday after Christmas. Saint John. |
| 28 | M | Holy Innocents. |
| 29 | Tu | |
| 30 | W | |
| 31 | Th | |

*University of Cambridge First, Second, and Third M.B. Examinations are held this month.*

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## JANUARY, 1886.

| | | |
|---|---|---|
| 1 | F | Circumcision. |
| 2 | S | |
| 3 | ☉ | Second Sunday after Christmas. |
| 4 | M | |
| 5 | Tu | Clinical Clerks and Dressers commence duty. |
| 6 | W | Epiphany. |
| 7 | Th | |
| 8 | F | |
| 9 | S | |
| 10 | ☉ | First Sunday after Epiphany. |
| 11 | M | Univ. Lond. Matriculation Examination. |
| 12 | Tu | |
| 13 | W | |
| 14 | Th | |
| 15 | F | |
| 16 | S | |
| 17 | ☉ | Second Sunday after Epiphany. |
| 18 | M | Univ. Lond. Prelim. Scientific (M.B.) Exam. |
| 19 | Tu | |
| 20 | W | |
| 21 | Th | |
| 22 | F | |
| 23 | S | |
| 24 | ☉ | Third Sunday after Epiphany. |
| 25 | M | Conv. of St. Paul. |
| 26 | Tu | |
| 27 | W | |
| 28 | Th | |
| 29 | F | |
| 30 | S | |
| 31 | ☉ | Fourth Sunday after Epiphany. |

*First, Second, and Third Examinations of the Examining Board in England are held this month.*

*The Registration and Museum Committees meet during this month.*

*Preliminary Examination in Arts of Apothecaries' Society held this month.*

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## FEBRUARY, 1886.

| | | |
|---|---|---|
| 1 | M | Univ. Lond. Matric. Pass List published. |
| 2 | Tu | |
| 3 | W | Last day for applications for House Offices, &c.* |
| 4 | Th | |
| 5 | F | |
| 6 | S | |
| 7 | ✠ | Fifth Sunday after Epiphany. |
| 8 | M | Univ. Lond. Classified Matric. List published. |
| 9 | Tu | |
| 10 | W | Meeting to appoint House Officers, &c. [married, 1840. Queen Victoria |
| 11 | Th | |
| 12 | F | |
| 13 | S | |
| 14 | ✠ | Sixth Sunday after Epiphany. |
| 15 | M | |
| 16 | Tu | |
| 17 | W | |
| 18 | Th | |
| 19 | F | |
| 20 | S | |
| 21 | ✠ | Septuagesima Sunday. |
| 22 | M | |
| 23 | Tu | |
| 24 | W | St. Matthias. |
| 25 | Th | |
| 26 | F | |
| 27 | S | |
| 28 | ✠ | Sexagesima Sunday. |

* *Applications for these appointments to be made to the Medical Secretary, by letter, stating the Candidate's qualifications, the offices which he has previously held in the Hospital, and the number of Maternity Cases attended.*

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## MARCH, 1886.

| | | |
|---|---|---|
| 1 | M | |
| 2 | Tu | House Officers, &c., commence duty. |
| 3 | W | Last day for applications for Clinical Clerkships and |
| 4 | Th | [Dresserships. |
| 5 | F | |
| 6 | S | |
| 7 | ☽ | Quinquagesima Sunday. |
| 8 | M | |
| 9 | Tu | |
| 10 | W | Meeting to appoint Clinical Clerks and Dressers. Ash |
| 11 | Th | [Wednesday. Prince of Wales married, 1863. |
| 12 | F | |
| 13 | S | |
| 14 | ☽ | First Sunday in Lent. |
| 15 | M | |
| 16 | Tu | |
| 17 | W | |
| 18 | Th | |
| 19 | F | |
| 20 | S | |
| 21 | ☽ | Second Sunday in Lent. |
| 22 | M | Sessional Examination commences. |
| 23 | Tu | |
| 24 | W | |
| 25 | Th | Annunciation. Lady Day. |
| 26 | F | |
| 27 | S | |
| 28 | ☽ | Third Sunday in Lent. |
| 29 | M | |
| 30 | Tu | |
| 31 | W | Registrar's Report for last year due. Last day for |
| | | [Reports for Solly Medal. |

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## APRIL, 1886.

| | | |
|---|---|---|
| 1 | Th | |
| 2 | F | |
| 3 | S | |
| 4 | ☉ | Fourth Sunday in Lent. |
| 5 | M | |
| 6 | Tu | Clinical Clerks and Dressers commence duty. |
| 7 | W | |
| 8 | Th | |
| 9 | F | |
| 10 | S | |
| 11 | ☉ | Fifth Sunday in Lent. |
| 12 | M | |
| 13 | Tu | |
| 14 | W | |
| 15 | Th | |
| 16 | F | |
| 17 | S | |
| 18 | ☉ | Palm Sunday. |
| 19 | M | |
| 20 | Tu | |
| 21 | W | |
| 22 | Th | |
| 23 | F | Good Friday. |
| 24 | S | |
| 25 | ☉ | Easter Sunday. St. Mark. |
| 26 | M | Bank Holiday. |
| 27 | Tu | |
| 28 | W | |
| 29 | Th | |
| 30 | F | |

*First, Second, and Third Examinations of the Examining Board in England are held this month.*

*The Examinations for the Mead and Cheselden Medals take place this month.*

*The Annual Inspection of the Museum and meeting of Museum Committee take place during this month.*

*The Registration Committee meets during this month.*

*Preliminary Examination in Arts of Apothecaries' Society held this month*

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## MAY, 1886.

| | | |
|---|---|---|
| 1 | S | Summer Session commences. St. Philip and St. James. |
| 2 | ✠ | First Sunday after Easter. |
| 3 | M | |
| 4 | Tu | |
| 5 | W | Last day for applications for House Offices, &c.* |
| 6 | Th | |
| 7 | F | |
| 8 | S | |
| 9 | ✠ | Second Sunday after Easter. |
| 10 | M | |
| 11 | Tu | |
| 12 | W | Meeting to appoint House Officers, &c. First Stone |
| 13 | Th | [of St. Thomas's New Hospital laid by H.M. |
| 14 | F | [the Queen, 1868. |
| 15 | S | |
| 16 | ✠ | Third Sunday after Easter. |
| 17 | M | |
| 18 | Tu | |
| 19 | W | |
| 20 | Th | |
| 21 | F | Last day for Certs. for Matric. Univ. Lond. |
| 22 | S | |
| 23 | ✠ | Fourth Sunday after Easter. |
| 24 | M | Queen Victoria born, 1819. |
| 25 | Tu | |
| 26 | W | |
| 27 | Th | |
| 28 | F | |
| 29 | S | |
| 30 | ✠ | Fifth Sunday after Easter. Rogation Sunday. |
| 31 | M | |

*Univ. Camb. Third M.B. Exam. held this month.*
*Royal College of Surgeons' Primary Examinations during this month.*
** Applications for these appointments to be made to the Medical Secretary, by letter, stating the Candidate's qualifications, the offices which he has previously held in the Hospital, and the number of Maternity Cases attended.*

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## JUNE, 1886.

| | | |
|---|---|---|
| 1 | Tu | House Officers, &c., commence duty. [Dresserships. |
| 2 | W | Last day for applications for Clinical Clerkships and |
| 3 | Th | Ascension Day. |
| 4 | F | |
| 5 | S | |
| 6 | ☉ | Sunday after Ascension Day. |
| 7 | M | |
| 8 | Tu | |
| 9 | W | Meeting to appoint Clinical Clerks and Dressers. |
| 10 | Th | |
| 11 | F | St. Barnabas. |
| 12 | S | |
| 13 | ☉ | Whit Sunday. |
| 14 | M | Bank Holiday. No Lectures. |
| 15 | Tu | |
| 16 | W | |
| 17 | Th | |
| 18 | F | |
| 19 | S | Last day for notice for Prel. Sci. (M.B.) Exam. Univ. [Lond. |
| 20 | ☉ | Trinity Sunday. Queen's Accession. |
| 21 | M | Univ. Lond. Matric. Exam. New St. Thomas's Hospital |
| 22 | Tu | [opened by H. M. the Queen, 1871. |
| 23 | W | |
| 24 | Th | Midsummer Day. St. John Baptist. |
| 25 | F | |
| 26 | S | |
| 27 | ☉ | First Sunday after Trinity. |
| 28 | M | Queen Victoria crowned, 1838. |
| 29 | Tu | St. Peter. |
| 30 | W | |

*The Harveian Oration is delivered at the Royal College of Physicians annually in the month of June.*

*Doctor of Science Examination at London University takes place within the first* 21 *days of June.*

*Distribution of Prizes for past Sessions during this month.*

*Univ. Camb. First and Second M.B. Examinations are held within the first* 14 *days of June.*

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## JULY, 1886.

| | | |
|---|---|---|
| 1 | Th | |
| 2 | F | |
| 3 | S | |
| 4 | ☽ | Second Sunday after Trinity. |
| 5 | M | |
| 6 | Tu | Clinical Clerks and Dressers commence duty. |
| 7 | W | Last day for applications for House Offices, &c., for |
| 8 | Th | [September.* |
| 9 | F | |
| 10 | S | Last day for Certs. for Int. Med. Exam. Univ. Lond. |
| 11 | ☽ | Third Sunday after Trinity. |
| 12 | M | Univ. Lond. Pass Matric. List published. |
| 13 | Tu | |
| 14 | W | Meeting to appoint House Officers, &c., for September. |
| 15 | Th | |
| 16 | F | |
| 17 | S | |
| 18 | ☽ | Fourth Sunday after Trinity. |
| 19 | M | Univ. Lond. Prelim. Scientific (M.B.) Exam. Classi- |
| 20 | Tu | [fied Matric. List published. |
| 21 | W | |
| 22 | Th | |
| 23 | F | |
| 24 | S | |
| 25 | ☽ | Fifth Sunday after Trinity. St. James. |
| 26 | M | Sessional Examination commences. Univ. Lond. Int. |
| 27 | Tu | [Med. Ex. |
| 28 | W | |
| 29 | Th | |
| 30 | F | |
| 31 | S | |

*First, Second, and Third Examinations of the Examining Board in England are held this month.*

*The Registration and Museum Committees meet during this month.*

* *Applications for these appointments to be made to the Medical Secretary, by letter, stating the Candidate's qualifications, the offices which he has previously held in the Hospital, and the number of Maternity Cases attended.*

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## AUGUST, 1886.

| | | |
|---|---|---|
| 1 | ☽ | Sixth Sunday after Trinity. |
| 2 | M | Bank Holiday. |
| 3 | Tu | |
| 4 | W | |
| 5 | Th | |
| 6 | F | |
| 7 | S | |
| 8 | ☽ | Seventh Sunday after Trinity. |
| 9 | M | |
| 10 | Tu | |
| 11 | W | |
| 12 | Th | |
| 13 | F | |
| 14 | S | |
| 15 | ☽ | Eighth Sunday after Trinity. |
| 16 | M | |
| 17 | Tu | |
| 18 | W | |
| 19 | Th | |
| 20 | F | |
| 21 | S | |
| 22 | ☽ | Ninth Sunday after Trinity. |
| 23 | M | |
| 24 | Tu | St. Bartholomew. |
| 25 | W | |
| 26 | Th | |
| 27 | F | |
| 28 | S | |
| 29 | ☽ | Tenth Sunday after Trinity. |
| 30 | M | |
| 31 | Tu | |



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## SEPTEMBER, 1886.

| | | |
|---|---|---|
| 1 | W | Last day for applications for Clinical Clerkships and [Dresserships. |
| 2 | Th | |
| 3 | F | |
| 4 | S | |
| 5 | ☉ | Eleventh Sunday after Trinity. |
| 6 | M | |
| 7 | Tu | House Officers, &c., commence duty. |
| 8 | W | |
| 9 | Th | |
| 10 | F | |
| 11 | S | |
| 12 | ☉ | Twelfth Sunday after Trinity. |
| 13 | M | |
| 14 | Tu | |
| 15 | W | |
| 16 | Th | |
| 17 | F | |
| 18 | S | |
| 19 | ☉ | Thirteenth Sunday after Trinity. |
| 20 | M | |
| 21 | Tu | St. Matthew. |
| 22 | W | Meeting to appoint Clinical Clerks and Dressers. |
| 23 | Th | |
| 24 | F | [1887 to be awarded in 1888. |
| 25 | S | Announcement of subject and date for Grainger Prize, |
| 26 | ☉ | Fourteenth Sunday after Trinity. |
| 27 | M | |
| 28 | Tu | |
| 29 | W | Michaelmas Day. |
| 30 | Th | Last day for Essay for Grainger Prize. |

*Preliminary Examination in Arts of Apothecaries' Society held this month.*

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# LIST OF STUDENTS

WHO HAVE OBTAINED

# Honours in the Annual Examinations.

*w refers to Winter and s to Summer Session.*

*The Addresses are those given at the time of Entry.*

**Abbott (F. C.), Gorleston.**
w 1884–5, 1st Year Student, 1st Entrance Science Scholarship. The Wm. Tite Scholarship.

**Acland (T. D.),* Oxford.**
w 1877–8. 3rd Year Physical Society's Prize. Paper published in Hospital Reports, Vol. VIII.
w 1878–9. 4th Year Student. The Mead Medal.

**Addy (B.), West Deeping, Lincolnshire.**
1869. 1st Year Student, 1st College Prize; Physical Society's 1st Year's Prize.
1870. 2nd Year Student, 1st Coll. Prize; Physical Society's 2nd Year's Prize.
1871. 3rd Year Student, 1st Coll. Prize; Prosector's Prize; Treasurer's Gold Medal.

**Allingham (W.),† Bermondsey.**
1852. Descriptive Anatomy, Hon. Cert.; Chemistry, Hon. Cert.
1853. Midwifery, Hon. Cert.
1854. Medicine, Hon. Cert.; Descriptive Anatomy, Prize; Midwifery, Hon. Cert.; Physical Society's Essay, Prize; Surgery, Prize; Physiology, Hon. Cert.
1855. Medicine, Prize; Descriptive Anatomy, Hon. Cert.; Physiology, Hon. Cert.; Clinical Medicine, President's Prize; Clinical Medicine, Treasurer's Prize.

**Anderson (W.),‡ Clapham, Surrey.**
1865. 1st Year Student, 3rd Coll. Prize.
1866. 2nd Year Student, 3rd Coll. Prize.
1867. 3rd Year Student, 1st Coll. Prize; Physical Society's 3rd Year's Prize; Cheselden Medal.

**Armstrong (H. G.), Reading.**
s 1872. 1st Year Student, Hon. Cert.
w1874. 3rd Year Student, 3rd Coll. Prize.

* Demonstrator of Minute Pathology at St. Thomas's Hospital. Assistant Physician, Brompton Hospital.

† Late Surgical Tutor, Surgeon to Great Northern Hospital, Surgeon to St. Mark's Hospital.

‡ Assistant Surgeon to, and Joint Lecturer on Anatomy at, St. Thomas's Hospital. Examiner in Anatomy, Royal College of Physicians, and Member of the Board of Examiners for the Fellowship of the Royal College of Surgeons; formerly Demonstrator of Anatomy, and Surgical Registrar at St. Thomas's Hospital, late Medical Officer to H.B.M. Legation in Japan, and Professor of Medical Sciences at the Japanese Naval Medical College, Tokio.

§ Assistant Surgeon to the West London Hospital. Demonstrator of Anatomy at St. Thomas's Hospital.

‖ Surgeon to Charing Cross Hospital.

**Atkinson (F. P.), Kew.**
1861. 1st Year Matriculation Examination—Classics and Mathematics, Hon. Cert.

**Atkinson (J.), Kirkby-Lonsdale.**
1853. Chemistry, Hon. Cert.

**Aveling (C. T.), Shacklewell.**
1863. Matriculation Examination—Physics and Natural History, 1st College Prize; 1st Year Student, 1st College Prize.
1864. 2nd Year Student, 2nd College Prize.
1865. 3rd Year Student, 3rd College Prize.

**Bailey (J. H. T.), Greenwich.**
1843. Materia Medica, Hon. Cert.

**Bain (J.)**
1855. Midwifery, Hon. Cert.

**Ballance (C. A.),§ Lower Clapton.**
w 1875–6. 1st Year Student, Hon. Cert.
w 1876–7. 3rd Year Student, 3rd College Prize, and Physical Society's 3rd Year's Prize;
1880. The Solly Medal and Prize.

**Barker (F. R.), Aldershot.**
w 1875. Prosector's Prize.

**Barron (H. J.), Guilford Street, Russell Square.**
w 1877–8. 2nd Year Student, Prosector's Prize.

**Barwell (R.),‖ Norwich.**
1847. Medicine, Hon. Cert.; Midwifery, Hon. Cert.
1848. Physical Society's Essay, Treasurer's Prize; Physiology and Anatomy, Hon. Cert.; Midwifery, Hon. Cert.; Dresser's Surg. Repts., Hon. Cert.
1850. Clinical Medicine, Prize.

**Bateson (J. M.), Kirkby-Lonsdale.**
1855. Chemistry, Hon. Cert.



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**Battle (W. H.),* Hanworth, Lincolnshire.**
s 1874. Hon. Cert.
w 1875. 2nd Year Student, 3rd College Prize.
w 1876-7. 3rd Year Student, The First Solly Medal and Prize.

**Beal (P.), Plymouth.**
1844. Chemistry. 2nd Prize.

**Beardsley (A.), Shipley, Derby.**
1843. Midwifery, 2nd Prize.

**Bedford (R. J.),† Sleaford.**
1858. Midwifery, Hon. Cert.

**Benwell (H. D.), Greenwich.**
1843. Chemistry, 2nd Prize.
1845. Physiology and Anatomy, Medal.
1847. Clinical Medical Reports, Prize; Gen. Proficiency, Trea. Medal.

**Bell (C. N.), Rochester.**
1867. 3rd Year Student, 3rd Coll. Prize.

**Bell (J. V.), Rochester.**
1859. 1st Year Student, Treasurer's 2nd Prize; Matriculation Examination—Classics and Mathematics, Hon. Cert.
1860. 2nd Year Student, Hon. Cert.
1861. 3rd Year Student, 3rd Coll. Prize.

**Bernays (H. L.), Chatham.**
w 1873. Prosector's Prize.

**Bernays (A. V.), Great Stanmore.**
s 1876. 1st Year Student, Hon. Cert.
w 1880–81. 3rd Year Student, 1st Coll. Prize.

**Bickle (L. W.), St. Leonard's-on-Sea.**
s 1878. 1st Year Student, 3rd Coll. Prize;
s 1879. 2nd Year Student, 1st Coll. Prize.

**Biddle (D.), Wotton-under-Edge.**
1860. 1st Year Student, Trea. Prize; Matriculation Exam.—Prize.
1861. 2nd Year Student, Hon. Cert.
1862. 3rd Year Student, Hon. Cert.

**Bidwell (H.), Ely.**
w 1883–4. 4th Year Student, qualified for Mead Medal.

**Birtwell (H. H.), Enfield, Lancashire.**
1865. 3rd Year Student, Hon. Cert.

**Black (J.), Kentish Town.**
w 1872. 2nd Year Student, Prosector's Prize.

**Black (W. S.), Chesterfield, Derby.**
1855. Midwifery, Hon. Cert.; Medicine, Hon. Cert.

**Blackett (W. C.), Durham.**
1851. Descriptive Anatomy, Hon. Cert.

**Blades (C. C.)**
1855. Midwifery, Hon. Cert.

**Bone (W.), Camberwell.**
1857. 1st Year Student, Trea. 1st Prize.
1858. 2nd Year Student, Trea. 1st Prize.

* Surgical Registrar to St. Thomas's Hospital.
† Late Assistant-Surgeon at the "Dreadnought" Hospital Ship.

**Bonser (J. H.), Sutton-in-Ashfield.**
1871. 3rd Year Student, 2nd Coll. Prize; Cheselden Medal.

**Boulger (J.), Gravesend.**
1870. 1st Year Student, Sir Wm. Tite's Scholarship.
1871. 2nd Year, Sir W. Tite's Scholarship.
w 1872. 3rd Year, Sir W. Tite's Scholarship.

**Bowen (E.), LlynGwair, Pembroke.**
1847. Descriptive and Surgical Anatomy, Hon. Cert.; Materia Medica, Hon. Cert.
1848. Descriptive and Surgical Anatomy, Hon. Cert.; Physiology and Anatomy, Hon. Cert.; Botany, Hon. Cert.; Comparative Anatomy, Hon. Cert.

**Bown (J. Y.), America.**
1848. Descriptive and Surgical Anatomy, Hon. Cert.

**Brake (J.), Holt, Wilts.**
1851. Matriculation Scholarship, Hon. Cert.; Descriptive Anatomy, Hon. Cert.; 1st Year Student, Scholarship; Chemistry, Hon. Cert.
1852. 2nd Year Student, Scholarship; Physiology, Prize; Materia Medica, Hon. Cert. Botany, Hon. Cert.; Medicine, Hon. Cert.
1853. 3rd Year Student, Scholarship; Clinical Medicine, Trea. Prize; Midwifery, Prize; Forensic Medicine, Prize.

**Bristowe (J. S.),‡ Camberwell.**
1847. Medicine, Hon. Cert.; Physiology and Anatomy, Hon. Cert.; Descriptive and Surgical Anatomy Prize.
1848. Descriptive and Surgical Anatomy, Hon. Cert.; Physiology and Anatomy, Prize; Practical Chemistry, Prize; Botany, Prize; Midwifery, Hon. Cert.; Comparative Anatomy, Prize; Surgery, Prize; General Proficiency, Treasurer's Medal.

**Britton (T.), Doncaster.**
1861. 1st Year Student, Hon. Cert.

**Brock (J.), Northwich.**
w 1872. 1st Year Student, 2nd Coll. Prize.
s 1872. Hon. Cert.

**Brockat (A. A.), Denmark Hill.**
w 1884–5. 4th Year Student, qualified for the Mead Medal.

**Brown (F. G.), London.**
1860. 1st Year Student, Hon. Cert.
1861. 2nd Year Student, 3rd Coll. Prize.
1862. 3rd Year Student, 3rd Coll. Prize.

**Brown (G. D.), Croydon.**
1851. Physiology, Hon. Cert.;

‡ Physician to, and Joint Lecturer on Medicine at, St. Thomas's Hospital. Late Lecturer on General Pathology.

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Botany, Prize;
Surgery, Hon. Cert.;
1852. Physiology, Hon. Cert.;
Physical Society's Essay, Treasurer's Prize;
Medicine, Hon. Cert.;
Pathology, Prize.

**BROWN (T. J. E.), Dorchester.**
1848. Practical Midwifery, Hon. Cert.

**BUCKNILL (E. R.), Bedford.**
1855. 1st Year Student, Scholarship;
Midwifery, Hon. Cert.;
Chemistry, Hon. Cert.;
Descriptive Anatomy, Hon. Cert.;
Materia Medica, Hon. Cert.

**BULL (J.), Norwood, Surrey.**
1848. Midwifery, Hon. Cert.

**BUTLER (W.), Stoke Newington.**
1845. Materia Medica, Hon. Cert.

**CAIGER (F. F.), Gloucester-st., S.W.**
w 1879–80. 1st Year Student, 3rd Coll. Prize.
w 1880–81. 2nd Year Student, 3rd Coll. Prize.
w 1882–83. 4th Year, the Mead Medal.

**CANN (R. T.), Plymouth.**
s 1882. 2nd Year Student. 1st Coll. Prize.
s. 1883. 3rd Year Student. 2nd Coll. Prize.

**CARPENTER (A.),* Rothwell.**
1848. Descriptive and Surgical Anatomy, Hon. Cert.;
Chemistry Prize;
Materia Medica, Hon. Cert.;
Matriculation Scholarship, Prize.
1849. Physiology Hon. Cert.;
Midwifery, Hon. Cert.;
Descriptive Anatomy, 1st Prize;
Medicine, 2nd Prize.
1850. Physiology, Hon. Cert.;
Descriptive Anatomy, Hon. Cert.;
Botany, Prize;
Medicine, Prize;
Surgery, Prize; [Medal.
General Proficiency, Treasurer's
1851. (Accoucheur) Midwifery, Prize;
Essay on Chorea, Mr. N. Smith's Prize.
1852. Surgical Reports, President's Prize;
Medical Reports, Dr. Roots' Prize;
Ophthalmic Reports, a Governor's Prize;
Clinical Medicine, Senior Prize.

**CARPENTER (A. B.), Croydon.**
w 1876–7. 1st Year Student, Hon. Cert.;

**CARPENTER (G. A.), Streatham.**
w. 1880–81. 1st Year Student, 3rd Coll. Prize.
s 1881. 1st Coll. Prize.
w 1881–2. 2nd Year, Student 3rd Coll. Prize.
Prosector's Prize.

**CARR (J. T.), Bombay.**
1844. Surgery, Prize.

**CASTLE (H.), Newport, I. of Wight.**
w 1874–5. 1st Year Student, 2nd Coll. Prize.
s 1875. 3rd College Prize.
w 1876–7. Physical Society's 3rd Year's Prize.

**CAUDLE (A. W. W.), Henfield, Sussex.**
1858. Clinical Medicine, Prize.

**CHALDECOTT (C. W.), Dorking.**
1849. Descriptive Anatomy, Hon. Cert.;
Chemistry, Hon. Cert.;
Materia Medica, 2nd Prize;
1st Year Student, Scholarship.
1850. Physiology, Hon. Cert.
Surgery, Prize.
1851. Physiology, Prize;
Descriptive Anatomy, Hon. Cert.;
Medicine, Hon. Cert.;
Physical Society's Essay, Treasurer's Prize;
Surgery, Hon. Cert.;
General Proficiency, Treasurer's Silver Medal.

**CHALDECOTT (T. A.), Newington.**
1848. Descriptive Surgical Anatomy, Hon.
Chemistry, Hon. Cert.; [Cert.;
Botany, Hon. Cert.;
Materia Medica, Hon. Cert.
Comparative Anat., Hon. Cert.;
Matriculation Scholarship, Prize
Practical Chemistry Hon. Cert.
1849. Physiology, Hon. Cert.;
Midwifery, Hon. Cert.;
Surgery, 2nd Prize;
Medicine, Hon. Cert.
1850. Physiology, Hon. Cert.;
Forensic Medicine, Prize;
Pathology, Prize;
Medicine, Hon. Cert.;
Surgery, Hon. Cert.

**CHAPMAN (C. E.), Preston.**
1855. Midwifery, Hon. Cert.;
Materia Medica, Hon. Cert.
1857. Clinical Assistant, Prize;
Physical Society's Essay, Prize.

**CHARPENTIER (A. E.).**
1882–3. 4th Year, The Mead Medal Exam., Special Mention and Hon. Cert.

**CHERRY (A. H.), Clapham.**
1845. Clinical Medicine, Hon. Cert.

**CHIPPERFIELD (W. N.), Reading.**
1852. 1st Year Student, Scholarship;
Descriptive Anatomy, Prize.
1853. 2nd Year Student, Scholarship.
Physiology, Prize;
Descriptive Anatomy, Prize;
Midwifery, Prize;
Physical Society's Essay, Prize;
Medicine, Prize;
Surgery, Prize.
1854. 3rd Year Student, Scholarship.
Medicine, Prize;
Descriptive Anatomy, Hon. Cert.
Midwifery, Prize;
Physical Society's Essay, Treasurer's Prize;
Forensic Medicine, Prize;
Chemistry, Hon. Cert.;
Comparative Anatomy, Prize;
Pathology, Prize;
Surgery and Surgical Anatomy Cheselden Medal;
Clinical Medicine, Treasurer's Prize
Physiology, Prize; [Medal.
General Proficiency, Treasurer's

**CLAPTON (E.),† Stamford.**
1851. Matriculation Scholarship, Hon. Cert.
1st Year Student, 1st Scholarship;
Descriptive Anatomy, Prize;
Chemistry, Prize.

* Lecturer on State Medicine at St. Thomas's Hospital.

† Late Physician to, and Lecturer on Materia Medica at, St. Thomas's Hospital. Physician to the Magdalen Hospital.

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1852. 2nd Year Student, Scholarship; Physiology, Prize; Materia Medica, Prize; Botany, Prize; Medicine, Hon. Cert.
1853. 3rd Year Student, Scholarship; Physiology, Hon. Cert.; [Prize; Clinical Medicine, Treasurer's Midwifery, Hon. Cert.; Physical Society's Essay, Treasurer's Prize; Medicine, Hon. Cert. Forensic Medicine, Hon. Cert.; Chemistry, Hon. Cert.; Surgery, Hon. Cert.
1854. Ophthalmic Reports, Governor's Prize; Clinical Medicine, Mr. N. Smith's Prize.

**Clapton (W.), Stamford.**
1855. Midwifery, Hon. Cert.; Descriptive Anatomy, Hon. Cert.; Materia Medica, Prize.
1856. Clinical Medicine, Prize.
*1858. Midwifery, Hon. Cert.

**Clarke (A.), Dorking.**
1856. 1st Year Student, Treasurer's 2nd Prize.

**Clark (J. H.), Jamaica.**
1867. 2nd Year Student, Physical Society's 2nd Year's Prize.

**Clarkson (J. W.), Surbiton.**
w 1872. 2nd Year Student, 3rd Coll. Prize.
w 1873. 3rd Year Student. 2nd Coll. Prize; Surgery and Surgical Anatomy, Hon. Cert.

**Cleghorn (G.), Bedford.**
1872. 3rd Year Student, Hon. Cert.

**Coggins (T.), Hayford, Woodstock.**
1847. Chemistry, Hon. Cert.
1848. Descriptive and Surgical Anatomy, Hon. Cert.; Midwifery, Hon. Cert.
1849. Midwifery, Hon. Cert.; Medicine, Hon. Cert.
1850. Surgical Reports, Prize; (Accoucheur) Midwifery, Hon. Cert.

**Colby (W. T.), Malton, York.**
1849. Descriptive Anatomy, Hon. Cert.; Midwifery, Hon. Cert.

**Collier (T. P.), Worship Square.**
1847. Practical Midwifery, Prize.

**Complin (E. J.), Charterhouse Sq.**
1851. Clinical Medicine, Prize; Medical Cases, President's Prize; Surgery, Hon. Cert.
1852. Midwifery, Hon. Cert.; Pathology, Hon. Cert.

**Cook (S. B.), Cape of Good Hope.**
s 1883. 1st year Student, 2nd Coll. Prize.

**Cook (W.), Gainsboro'.**
1844. Chemistry, Hon. Cert.; Materia Medica, Hon. Cert.

**Cooke (C. W.), Regent's Park.**
w 1883–4. 1st year Student, 1st Entrance Science Scholarship.

**Cooke (J.), Stamford.**
1855. Comparative Anatomy, Prize; Midwifery, Hon. Cert.; Physiology, Hon. Cert.

**Cory (R.),* Carlisle.**
1870. Physical Society's 3rd Year's Prize.

**Cousins (J. W.), Portsea.**
1864. Descriptive Anatomy, Hon. Cert.; Chemistry, Hon. Cert.
1855. Surgery, Prize; Midwifery, Prize; Mid-twifery, Hon. Cert.
1856. Clinical Medicine, Prize; Surgery and Surgical Anatomy, Cheselden Medal.

**Cowen (P.), Kennington.**
1862. 1st Year Student, 2nd Coll. Prize.
1863. 2nd Year Student, 2nd Coll. Prize.
1864. 3rd Year Student, 2nd Coll. Prize.

**Cowen (T. P.), Upper Holloway.**
w 1884–5. 1st Year Student, ‡ 1st and 2nd Coll. Prizes.

**Cox (E.), Maiden Newton, Dorsetshire.**
1866. 1st Year Student, 3rd Coll. Prize.
1868. 3rd Year Student, 2nd Coll. Prize.

**Coxwell (C. F.), Brighton.**
1880. 4th Year Student, the Mead Medal.

**Crick (S. A.), Cosby-hill, Leicestershire.**
s 1875. 1st Year Student, Hon. Cert.
w 1875–6. Prosector's Prize.
w 1876–7. 3rd Year Student, 3rd Coll. Prize.

**Croft (J.),† Clapton.**
1851. Descriptive Anatomy, Hon. Cert.
1853. Midwifery, Hon. Cert.

**Crofts (W. C.), Rowston, Lincoln.**
1855. Surgery, Hon. Cert.; Midwifery, Hon. Cert.

**Crosby (T. B.), Gosberton, Lincoln.**
1851. Physiology, Prize; Descriptive Anatomy, Prize; Medicine, Prize; Surgery, Prize.
1852. Physiology, Prize; Descriptive Anatomy, Hon. Cert.; Medicine, Hon. Cert.; Forensic Medicine, Prize; Practical Chemistry, Prize; Surgery, Hon. Cert.; Surgery and Surgical Anatomy, *Bronze* Cheselden Medal; Comparative Anatomy, Prize.

**Crossman (J.), Redruth.**
1871. Physical Society's 1st Year's Prize.
1872. Physical Society's 2nd Year's Prize.
1873. Physical Society's 3rd Year's Prize.

**Crowdy (F. D.), Bath.**
w 1884–5. 4th Year Student, the Mead Medal.

**Davies (D.), Carmarthenshire.**
1843. Chemistry, 1st Prize; Midwifery, Hon. Cert.; Materia Medica, Prize.

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* Assistant Obstetric Physician to, and Joint Lecturer on Forensic Medicine at, St. Thomas's Hospital.

† Member of Council and of Court of Examiners, Royal College of Surgeons. Surgeon to and Special Lecturer on Clinical Surgery at, St. Thomas's Hospital; late Assistant Demonstrator of Anatomy.

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1844. Medicine, Hon. Cert.;
Physiology and Anatomy, Hon. Cert.
1845. Clinical Surgical Reports, Medal.

**Davies (D. S.), Bristol.**
1875–6. Physical Society's 1st Year's Prize.

**Day (W. H.), Norwich.**
1844. Surgery, Prize;
Physical Society's Essay, Hon. Cert.;
Dresser's Clinical Surgery, Prize.

**Deck (J. F.), Nelson, New Zealand.**
1860. 1st Year Student, 1st Coll. Prize.
1861. 2nd Year Student, 1st Coll. Prize;
Physical Society's Prize.
1862. 3rd Year Student, 1st Coll. Prize;
Physical Society's Prize;
Cheselden Medal;
Treasurer's Gold Medal.

**Dickerson (S. H.), Hartest, Suffolk.**
1853. Physiology, Hon. Cert.;
Materia Medica, Hon. Cert.;
Midwifery, Hon. Cert.;
Medicine, Hon. Cert.

**Dixon (E. L.), Preston, Lancashire.**
1852. 1st Year Student, Scholarship;
Chemistry, Hon. Cert.
1853. 2nd Year Student, Scholarship;
Physiology, Hon. Cert.;
Materia Medica, Prize;
Descriptive Anatomy, Hon. Cert.;
Midwifery, Hon. Cert.;
Botany, Prize;
Medicine, Hon. Cert.
1854. 3rd Year Student, Scholarship;
Descriptive Anatomy, Hon. Cert.;
Practical Chemistry, Prize;
Physiology, Hon. Cert.

**Dobson (N. C.),* Holbeach, Lincolnshire.**
1865. 1st Year Student, 1st Coll. Prize.
1866. 2nd Year Student, 1st Coll. Prize.
1867. 3rd Year Student, 2nd Coll. Prize;
A Prize and Hon. Cert. for Proficiency in Surgery and Surgical Anatomy at the Cheselden Medal Examination;
Treasurer's Gold Medal.

**Drake (A. J.), Kingsclere, Hants.**
1870. 3rd Year Student, 1st Coll. Prize.

**Drake (C. H.), Kingsclere, Hants.**
1857. 1st Year Student, Hon. Cert.;
1858. 2nd Year Student, Treasurer's 1st Prize;
Clinical Medicine, 2nd Prize.
1859. 3rd Year Student, Hon. Cert.;
Surgery and Surgical Anatomy, Cheselden Medal;
General Proficiency, Treasurer's Medal.

**Drake (T.), Kingsclere, Hants.**
1858. 2nd Year Student, Treasurer's 1st Prize;
1859. 2nd Year Student, President's Prize.
1860. 3rd Year, 1st College Prize;
Surgery and Surgical Anatomy, Cheselden Medal;
General Proficiency, Treasurer's Medal.

* Surgeon to the Bristol General Hospital and Lecturer on Surgery at the Bristol Medical School.

**Drew (G. F. A.), Plymouth.**
1848. Descriptive and Surg. Anat. Prize
Chemistry, Hon. Cert.;
Botany, Prize;
Comparative Anatomy, Hon. Cert.;
Practical Chemistry, Prize;
Gen. Proficiency, Hon. Cert.
1849. Physiology, 2nd Prize;
Midwifery, Hon. Cert.;
Descriptive Anatomy, Hon. Cert.;
Medicine, Hon. Cert.
1850. Physiology, Prize;
Descriptive Anatomy, Hon. Cert.
Medicine, Hon. Cert.;
Surgery, Hon. Cert.

**Dukes (C.), Dalston.**
1865. 1st Year Student, Hon. Cert.
1867. 3rd Year Student, Hon. Cert.;
Prosector's Prize and Hon. Cert.

**Duncan (H.), London.**
w 1882–3. 1st Year Student, 1st Entrance Science Scholarship; 1st Coll. Prize.
w 1883–4. 2nd Year Student, Prosector's Prize.

**Duncan (W. A.),† Manchester.**
w 1876–7. 1st Year Student, The William Tite Scholarship.
s 1877. 1st College Prize.
w 1877–8. 2nd Year Student, The Musgrove Scholarship.
w 1877–8. 2nd Year Physical Society's Prize.
s 1878. 1st College Prize.
w 1878–9. 2nd Tenure Musgrove Scholarship.
1st College Prize;
3rd Year Physical Society's Prize;
Grainger Testimonial Prize.
1880. 4th Year Student, The Cheselden Medal.
The Treasurer's Medal.
w 1881–2. The Solly Medal and Prize.

**Dunman (G.), Camberwell.**
1852. Chemistry, Hon. Cert.
1854. Midwifery, Hon. Cert.

**Dyer (F. J.), Blackheath.**
1847. Chemistry, Prize;
Materia Medica, Hon. Cert.;
1849. Physiology, Hon. Cert.;
Midwifery, 2nd Prize;
Medicine, Hon. Cert.

**Eccles (C. H.), Brigg.**
w 1884–5. 2nd Year Student, 1st Coll. Prize.

**Eddowes (J. H.), Loughboro'.**
1843. Physiology and Anatomy, Hon. Cert.;
Chemistry, Hon. Cert.;
Comparative Anatomy, Prize.
1844. Physiology and Anatomy, Hon. Cert.;
Clinical Medical Reports, Silver Medal.
1845. Clinical Medicine, Prize.

**Eddowes (W. D.), Loughboro'.**
1845. Descriptive and Surgical Anatomy, Prize.

**Edmonds (S.), St. Helen's, Lancashire.**
1852. Chemistry, Hon. Cert.

† Assistant Obstetric Physician to Middlesex Hospital. Obstetric Physician Royal Hospital for Women and Children.

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1853. Midwifery, Hon. Cert.;
Medicine, Hon. Cert.;
Surgery, Hon. Cert.
1854. Surgery and Surgical Anatomy, Hon. Cert.;
Clinical Medicine, Treas. Prize;
Clinical Medicine, Pres. Prize.
1855. Surgical Reports, Pres. Prize;
Clinical Medicine, Dr. Roots' Prize.

**Edwards (S.), Littlehampton.**
1855. Midwifery, Hon. Cert.

**Edwards (V.), Woodbridge, Suffolk.**
1843. Surgery, Prize.

**Elborough (P. J.), Herne Bay.**
1845. Chemistry, Hon. Cert.
1847. Medicine, Hon. Cert.;
Midwifery, Prize.
1848. Medicine, Hon. Cert.;
Surgery, Hon. Cert.;
Surgical Report, Pres. Prize.

**Ellis (J.), Portsea, Hants.**
1857. Clinical Assistant (Medicine), Hon. Cert.

**Elwin (C. J.), London.**
1855. Practical Midwifery, Prize.

**Evans (C. W. de Lacey), Bangor.**
w 1876-7. 3rd Year Student, The Solly Prize and Hon. Cert.

**Fairbank (J.), Islington.**
1865. 1st Year Student, Hon. Cert.
1866. 2nd Year Student, Prosec. Prize.

**Farrant (S.), Collumpton, Devon.**
1859. 2nd Year Student, Hon. Cert.
1860. 3rd Year Student, Hon. Cert.

**Faulkner (R.), Camberwell.**
1844. Botany, Prize;
Clinical Medical Reports, Hon. Cert.

**Fawssett (F.), Surbiton.**
w 1883-4. 1st Year Student, 2nd Entrance Science Scholarship. The William Tite Scholarship.
s 1884. 1st Year Student, 1st Coll. Prize.
w 1884-5. 2nd Year Student, The Musgrove Scholarship.

**Fell (W.), Kensington.**
w 1878-9. 2nd Year Student Prosector Prize.

**Fenton (H. A. H.), Westminster.**
w 1875-6. 1st Entrance Science Scholarship.
s 1876. 1st Year Student, 1st College Prize.

**Fernie (A.), Yeldon, Beds.**
1853. Physiology, Hon. Cert.;
Surgery, Hon. Cert.

**Fernie (W. T.), Yeldon, Beds.**
1852. Practical Midwifery, Prize;
Midwifery, Hon. Cert.

**Fisher (T.), St. Michael's.**
s 1872. 1st Year Student, Hon. Cert.
s 1873. 2nd Year Student, 2nd College Prize.
w 1874. 2nd Year Student, 3rd College Prize.
w 1875. 3rd Year Student, Surgery and Surgical Anatomy, Prize, and Cert. of Hon.

**Ford (G. W.), Cape of Good Hope.**
w. 1880-81. 3rd Year Student, Prosector's Prize.

**Fowler (J. T.), Winterton, Lincoln.**
1854. Chemistry, Hon. Cert.
1855. Botany, Hon. Cert.

**Fowler (J.), Winterton, Lincoln.**
1859. 1st Year Student, Hon. Cert.
1860. 2nd Year Student, 2nd College Prize.
1861. 3rd Year Student, 2nd College Prize.

**Freeman (D.), Kennington.**
1859. Clinical Medicine, Prize.

**Freeman (A. J.), Southsea, Hants.**
1865. 3rd Year Student, Hon. Cert.

**Fulton (J. A.), Stockwell.**
1852. Botany, Hon. Cert.
1853. Practical Chemistry, Prize.

**Furnival (F. H.), Nottingham.**
w 1878-9. 1st Year Student;
The Sir Wm. Tite Scholarship.

**Gardner (E. B.), London.**
1858. Matriculation Examination—Classics and Mathematics, Prize.

**Garton (W.), St. Helier's.**
1870. 2nd Year Student, 2nd College Prize.
Physical Society's 2nd Year's Prize.
1871. Physical Society's 3rd Year's Prize.

**Gimblett (J.), Taunton.**
1860. 1st Year Student, Hon. Cert.

**George (C. F.), Kirton-on-Lindsay.**
1855. Midwifery, Hon. Cert.
1856. 2nd Year Student, Dr. Roots' Prize.
1857. 3rd Year Student, Hon. Cert.;
Surgery and Surgical Anatomy, Cheselden Medal.

**Gervis (F. H.), Tiverton.**
1861. 1st Year Matriculation Scholarship.—College Prize, 2nd College Prize.
1862. 2nd Year Student, 1st College Prize.
1863. 3rd Year Student, Hon. Cert. and Physical Society's Prize.

**Gervis (H.),* Tiverton.**
1856. 1st Year Student, Treas. 1st Prize;
Matriculation Examination, Physics, &c., Prize.
1857. 2nd Year Student, Pres. Prize;
Physical Society's Essay, Prize.
1858. Clinical Assistant (Medicine), 2nd Prize;
Physical Society's Essay, Prize;
General Proficiency, Treasurer's Medal.

**Giles (F. W.), Henley-on-Thames.**
w 1875-6. 3rd Year Student, Hon. Cert.

**Gimlette (G. H. D.), Southsea.**
s 1874. 1st Year Student, Hon. Cert.
w 1875-6. 3rd Year Student, Hon. Cert.
w 1876-7. Physical Society's 3rd Year's Prize.

**Glover (J. P.), Lansdowne Road.**
w 1881-2. 3rd Year Student, 3rd Coll. Prize.

**Goddard (E.), London.**
1860. Matriculation Examination, Classics, &c., Prize.

**Goddard (L.), London.**
1856 Matriculation Examination, Classics and Mathematics, Prize.

* Obstetric Physician to, and Lecturer on Midwifery and Diseases of Women and Children at, St. Thomas's Hospital. Late Examiner in Obstetric Medicine, University of London.

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**Godfrey (A. E.), Northampton.**
s 1883. 2nd Year Student, 2nd Coll. Prize.
w 1883–4. 3rd Year Student, 2nd Coll. Prize.

**Gooddy (E. S.), Hampstead.**
w 1882–3. 2nd Year Student, 3rd Coll. Prize.
s 1883. 2nd Year Student, 1st Coll. Prize.

**Gowland (W.), London.**
1845. Botany, Hon. Cert.

**Grabham (C.), Islington.**
1857. Matriculation Examination, Modern Languages, Prize.

**Grabham (G. W.),* Islington.**
1855. Matriculation Examination, Scholarship;
Midwifery, Hon. Cert.;
Materia Medica, Hon. Cert.

**Grabham (J.), Rochford, Essex.**
1848. Descriptive and Surgical Anatomy, Hon. Cert.;
Chemistry, Hon. Cert.;
Botany, Hon. Cert.;
Comparative Anatomy, Prize.
1850. Physiology, Hon. Cert.
1851. Physiology, Hon. Cert.;
Descriptive Anatomy, Hon. Cert.;
Forensic Medicine, Prize;
Surgery, Prize;
Midwifery, Hon. Cert.

**Grabham (M. C.), Islington.**
1860. 2nd Year Student, Hon. Cert.
1861. 3rd Year Student, Hon. Cert.

**Greaves (C. A.), Derby.**
1861. 1st Year Student, Treasurer's Prize; Matriculation Examination, Hon. Cert.
1862. 2nd Year Student, 2nd College Prize; Physical Society's Prize.
1863. 3rd Year Student, 1st College Prize; Physical Society's Prize; Cheselden Medal.

**Green (C. D.), New Cross.**
w 1879–80. 1st Year Student, The Wm. Tite Scholarship.
s 1880. 3rd College Prize.
w 1880–81. 1st College Prize.
s 1882. 1st Coll. Prize.
w 1882–3. 4th Year Student, qualified for Treasurer's Gold Medal.

**Green (J. T.), Peckham, Surrey.**
1865. 1st Year Student, Physical Society's Prize.

**Green (M. H.), Peckham.**
s 1873. 1st Year Student, 2nd College Prize.

**Grose (S.), Boston, Lincoln.**
1858. 2nd Year Student, Hon. Cert.
1859. Physical Society's Essay Prize.

**Griffiths (A. L.), London.**
1859. Midwifery, Hon. Cert.

**Gulliver (G.),† Canterbury.**
w 1876-7. Physical Society's 2nd Year's Prize.

**Gurney (R. A. F.), Rampton, Cambridge.**
1851. Practical Midwifery, Prize.

**Hague (S.),‡ Camberwell.**
1863. 1st Year Student, 2nd Coll. Prize.

**Haig-Brown (C. W.), Godalming.**
s 1878. 1st Year Student, 2nd College Prize;
w 1878-9. 2nd Year Student, 2nd College [Prize.
w 1880–81. The Cheselden Medal.

**Hammerton (E.), Elland, York.**
1857. 1st Year Student, Hon. Cert.

**Hammond (J. H.), Bridlington, York.**
1850. Medical Cases, President's Prize.

**Harding (J. A.), Bath.**
1859. Clinical Medicine, 2nd Prize.
1860. Clinical Assistant (Medicine), 1st Prize.

**Harper (R.), Brighton.**
1844. Clinical Surgical Reports, Hon. Cert.
1845. Physical Society's Essay, Prize.
Dresser's Clinical Surgery, Prize.

**Haslam (W. F.),§ Reading.**
s 1876. 2nd Year Student, 1st College Prize.
w 1877-8. The Cheselden Medal.

**Hatchett (F. W.), S. Wales.**
s 1880. 1st Year Student, 1st College Prize.

**Hatton (G. S.), Newent, Glo'stershire.**
w 1876-7. 2nd Year Student, Prosector's [Prize.

**Hawkins (H. P.), Hawkhurst.**
w 1882–3. 1st Year Student, The William Tite Scholarship.
w 1883–4. 2nd Year Student. The Peacock Scholarship.
w 1884–5. 3rd Year Student, 2nd tenure of Peacock Scholarship and 1st Coll. Prize.

**Heelis (R.), Carshalton.**
s 1877. 1st Year Student, 2nd College Prize.
s 1878. 2nd Year Student, 2nd Coll. Prize.

**Heffernan (H. H.), Southsea.**
w 1883–4. 1st Year Student. 2nd Coll. Prize.

**Heighton (T.), Leicester.**
w 1873. 3rd Year Student, Hon. Cert.

**Hewlett (T. J.), Harrow.**
1850. Matriculation Scholarship, Prize.

**Heygate (W. N.), Harslope, Bucks.**
1863. 2nd Year Student, Hon. Cert.
1864. 3rd Year Student, Hon. Cert.

**Hicks (J. W.), ‖ Highgate New Town, N.**
1852. 1st Year Student, Treasurer's 1st Prize.
1860 2nd Year Student, 1st College Prize; Physical Society's Prize.
1861. 3rd Year Student, 1st College Prize; Physical Society's Prize; Cheselden Medal; Treasurer's Gold Medal.

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* Government Inspector of Lunatic Asylums and Hospitals, New Zealand. Late Resident Medical Superintendent at Earlswood Asylum.

† Assistant Physician to, and Lecturer on Comparative Anatomy at, St. Thomas's Hospital, Assistant Physician to London Fever Hospital.

‡ Late Medical Registrar at St Thomas's Hospital.

§ Assistant Surgeon to the Birmingham General Hospital, late Demonstrator of Anatomy at St. Thomas's Hospital.

‖ Late Lecturer on Botany at St. Thomas's Hospital; late Curator of the Museum.

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**Higgins (A. H.), Bermondsey.**
1857. Midwifery, Hon. Cert.

**Hilditch (J.), Sandbach, Cheshire.**
1857. 1st Year Student, Hon. Cert.
1858. Physical Society's Essay, Prize.
1859. Essay on Neuralgia, Mr. N. Smith's Prize.

**Hodges (H. B.).**
1856. Midwifery, Hon. Cert.

**Hodges (R.), London.**
1843. Physiology and Anatomy Hon. Cert.;
Medicine, Hon. Cert.;
Clinical Medicine, Hon. Cert.;
Surgical Essay, Silver Medal.

**Ho Kai, Hong Kong, China.**
w 1875–6. 1st Year Student, Hon. Cert.
s 1876. Hon. Cert.
w 1876–7. 2nd Year Student, Hon. Cert.

**Holbeeton (H. N.), Hampton.**
w 1876–7. 2nd Entrance Science Scholarship, and 2nd College Prize.
w 1877–8. 2nd Year Student, 1st Coll. Prize.

**Hooper (J. H.), Upton Warren.**
1858. 1st Year Student, Hon. Cert.
1859. 2nd Year Student, College Prize.
1860. 3rd Year Student, Hon. Cert.

**Hopton (A. W.), Stockwell.**
1851. Descriptive Anatomy, Hon. Cert.

**Howell (T.), London.**
1850. Practical Midwifery, Prize.

**Hubbard (J. W.), Leicester.**
1847. Clinical Medical Reports, Prize;
Medicine, Prize;
Physiology and Anatomy, Hon. Cert.
Physical Society's Essay, Treasurer's Prize.

**Hull (W. W.), Acton.**
w 1878–9. 2nd Entrance Science Scholarship.
w 1881–2. The Mead Medal.

**Hunt (J. A.), Derby.**
w 1873. 1st Year Student, Hon. Cert.
w 1874. Prosector's Prize.

**Hunter (W. F.), Margate.**
1859. 1st Year Student, Hon. Cert.;
Matriculation Examination in Classics and Mathematics, Prize;
Matriculation Examination in Modern Languages, Prize.
1860. 2nd Year Student, 3rd Coll. Prize.
1861. 3rd Year Student, Hon. Cert.

**Hurman (H. B.), Bridgewater.**
1853. Midwifery, Hon. Cert.

**Hutton (J. S.), Sevenoaks.**
w 1881–2. Entrance Science Scholarship. 2nd Coll. Prize.
s 1882. 1st Coll. Prize.
s 1884. 3rd Year Student, ‡ 1st and 2nd Coll. Prizes.
w 1884–5. 4th Year Student, qualified for the Mead and Treasurer's Medals.

**Iles (D.), Fairford.**
1863. 2nd Year Student, Hon. Cert.
1864. 3rd Year Student, Hon. Cert.

**Inglis (W. W.),* Brixton Hill.**
1864. 1st Year Student, 2nd Coll. Prize.
1865. 2nd Year Student, 2nd Coll. Prize.
1866. 3rd Year Student, 3rd Coll. Prize; Cheselden Medal.

**Ives (R.)**
1855. Midwifery, Hon. Cert.

**Jackson (T. C.), Rotherhithe.**
1844. Materia Medica, Hon. Cert.

**Jacob (E. H.), Winchester.**
w 1875–6. Physical Society's 3rd Year's Prize.

**Jacobson (T. E.), Sleaford, Lincoln.**
1852. Practical Midwifery, Prize.

**Jardine (J. L.), Brixton.**
1848. Physiology and Anatomy, Hon. Cert.
1850. Medical Reports, Dr. Roots' Prize.

**Jay (M.), Wallaroo, South Australia.**
w 1877–8. 1st Year Student, 3rd Coll. Prize.
w 1878–9. 2nd Year Student, 2nd College Prize;
Prosector's Prize.

**Jefferson (T. J.), Hull.**
1861. 2nd Year Student, Hon. Cert.
1862. 3rd Year Student, Hon. Cert.

**Johnson (W. G.), Wandsworth.**
1853. Chemistry, Hon. Cert.
1854. Midwifery, Hon. Cert.
1855. Comparative Anatomy, Prize; Midwifery, Hon. Cert.

**Johnston (G. D.).**
w 1882–3. 4th Year, Cheselden Medal.

**Jones (S.),†Cricklewood, Middlesex.**
1851. Matriculation Scholarship, Prize; Descriptive Anatomy, Hon. Cert.; Chemistry, Hon. Cert.; 1st Year Student, Scholarship.
1852. 2nd Year Student, Scholarship; Physiology, Hon. Cert.; Descriptive Anatomy, Prize; Botany, Hon. Cert.
1853. Physiology, Hon. Cert.; Descriptive Anatomy, Hon. Cert.; 3rd Year Student, Scholarship; Materia Medica, Hon. Cert.

**Jones (Sydney H.), George Street, Hanover Square.**
w 1881–2. 1st Year Student, Entrance Science Scholarship. The Wm. Tite Scholarship.
w 1882–3. 2nd Year Student, ‡ Musgrove Scholarship and 1st Coll. Prize combined.
Prosector's Prize.
w 1883–4. 3rd Year Student, 2nd tenure of ‡ Musgrove Scholarship, with 1st College Prize.
s 1884. 3rd Year Student, ‡ 1st and 2nd Coll. Prizes.
w 1884–5. 4th Year Student, The Cheselden Medal.
Treasurer's Gold Medal.

**Jones (A. O.), Islington.**
1862. 1st Year Student, Hon. Cert.

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* Late Medical Registrar at St. Thomas's Hospital.

† Member of Council, Royal College of Surgeons; Surgeon to, and Joint Lecturer on Surgery at, St. Thomas's Hospital; late Lecturer on Anatomy and Ophthalmic Surgery.

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**Jones (J.), Ilfracombe.**
1863. Matriculation Examination — Modern Languages and Modern History, College Prize.

**Jones (W. Wansbrough),* Leek.**
w 1877-8. 1st Year Student; 1st Entrance Science Scholarship; £60.
The William Tite Scholarship.
w 1877-8. 1st Year Physical Society's Prize;
s 1878. 1st Year Student, 1st Coll. Prize;
w 1878-9. 2nd Year Student, The College Scholarship;
s 1879. 2nd Year Student, 2nd Coll. Prize;
w 1879-80. 3rd Year Student, 2nd tenure of Coll. Scholarship, and 1st Coll. Prize.
w 1880-81. The Mead Medal; Treasurer's Gold Medal.

**Joseph (S. W. J.), St. Leonards.**
1873. Physical Society's 2nd Year Prize.

**Keele (J. T.), South Lambeth.**
1853. Materia Medica, Hon. Cert.; Midwifery, Hon. Cert.

**Kerakoose (J.), East Indies.**
1854. Midwifery, Hon. Cert.

**Keyworth (J. W.),† Aston, Berks.**
1848. Chemistry, Hon. Cert.; Materia Medica, Prize; General Proficiency, Hon. Cert.
1849. Physiology, Hon. Cert.; Midwifery, 3rd Prize; Medicine, Hon. Cert.; Physical Society's Essay, Prize.
1850. Physiology, Hon. Cert.; (Accoucheur) Midwifery, Hon. Cert.; Ophthalmic Reports, a Governor's Prize; Essay on Neuralgia, Mr. Newman Smith's Prize.
1851. Comparative Anatomy, Prize; Clinical Medicine, Prize; Surgical Reports, Prize; Midwifery, Prize; Medical Reports, Prize; Pathology, Prize; Physical Society's Essay, Prize.

**Kidd (H. C.), Upper Norwood.**
w 1881-2. 1st Year Student, 3rd Coll. Prize.
w 1884-5. 4th Year Student, qualified for the Mead Medal.

**Knaggs (R. H. E.), Trinidad, W. Indies.**
w 1875-6. Prosector's Prize.

**Lake (W. W.), Ilford, Essex.**
1873. Physical Society's 1st Year's Prize.

**Lake (R.), Dover.**
w 1881-2. 2nd Year Student, Prosector's Prize.
w 1883-4. 4th Year Student, qualified for Cheselden Medal.

**Lankester (H.), Poole, Dorset.**
1850. 1st Year Student, Scholarship; Descriptive Anatomy, 1st Prize; Chemistry, Prize.
1851. Physiology, Prize; Materia Medica, Prize; Descriptive Anatomy, Hon. Cert.; Botany, Hon. Cert.; Medicine, Prize; Physical Society's Essay, Prize; Surgery, Hon. Cert.
1852. 3rd Year Student, Scholarship; Physiology, Hon. Cert.; Descriptive Anatomy, Hon. Cert., Medical Cases, President's Prize; Medicine, Prize; Surgery, Prize; Surgery and Surgical Anatomy Cheselden Medal; General Proficiency, Treasurer's Medal.
1853. Surgical Essay, President's Prize.

**Lankester (H. H.), Leicester.**
w. 1880-81. Entrance Science Scholarship. 1st Year Student 2nd Coll. Prize.
w 1881-2. 2nd Year Student, The College Scholarship Two Years.

**Laver (H.)**
1855. Midwifery, Hon. Cert.

**Laver (A. H.), Rayleigh.**
1870. 1st Year Student, 3rd Coll. Prize.
1871. 2nd Year Student, 2nd Coll. Prize.
w 1872. 3rd Year Student, 2nd Coll. Prize, Cheselden Medal.

**Lawson (R.), St. Andrews, N.B.**
w 1880-81. 1st Entrance Science Scholarship. 1st Year Student, The Wm. Tite Scholarship.
s 1881. 2nd Coll. Prize.
w 1881-2. 2nd Year, 2nd Coll. Prize.
w 1882-3. 3rd Year, 2nd Coll. Prize.
w 1883-4. 4th Year Student, The Cheselden Medal. Treasurer's Gold Medal.

**Laxton (T. L.), Stamford.**
w 1876-7. 2nd Year Student, Prosector's Prize.

**Ledger (M.), London.**
1845. Dresser's Clinical Surgery, Prize.

**Lees (J.),‡ Wolverhampton.**
1859. 1st Year Student, Hon. Cert.;
1861. 3rd Year Student, Hon. Cert.; Physical Society's Prize.

**Leeson (T.), Snaith, York.**
1847. Medicine, Hon. Cert.; Surgery, Prize; Physiology and Anatomy, Hon. Cert.; Descriptive and Surgical Anatomy, Hon. Cert.; Midwifery, Hon. Cert.
1848. Descriptive and Surgical Anatomy, Hon. Cert.; Physiology and Anatomy, Hon. Cert.; Medicine, Hon. Cert.; Midwifery, Prize.

**Le Gros (J.), Jersey.**
1844. Medicine, Hon. Cert.; Midwifery, 1st Prize.
1845. Clinical Medical Reports, Medal; Medicine, Hon. Cert.; Dresser's Clinical Surgery, Prize.

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* Ratcliffe Travelling Fellow, Oxford, 1880. Resident Medical Officer, Barnes Convalescent Hospital, Manchester.

† Late Lecturer on Physiology at Sydenham College, Birmingham.

‡ Late Demonstrator of Morbid Anatomy at St. Thomas's Hospital.

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**LEREW (F. W.), Maida Vale.**
s 1876. 1st Year Student, Hon. Cert.

**LITTELJOHN (S. G.), Falmouth, Jamaica.**
1865. 1st Year Student, Hon. Cert.

**LOCOCK (H. S.), Blackheath.**
1848. Descriptive and Surgical Anatomy, Hon. Cert.;
Physiology and Anatomy, Hon. Cert.;
Midwifery, Hon. Cert.
1849. Physiology, Hon. Cert.

**LONGSTAFF (G. B.), Wandsworth.**
w 1873-4. 1st Year Student, 2nd Coll. Prize.
s 1874. 1st Coll. Prize;
Physical Society's 1st Year's Prize;
s 1875. 2nd Year Student, 2nd Coll. Prize.
w 1875-6. 3rd Year Student, 1st Coll. Prize.
w 1876-7. 4th Year Student, Mead Medal.

**LUSH (W. H.), Devizes.**
w 1872. 2nd Year Student, Prosector's Prize.

**LUSH (J. S.), West Lavington.**
s 1873. 1st Year Student, 3rd Coll. Prize.

**MACEVOY (H. J.), Chantilly.**
w 1884-5. 3rd Year Student, ‡ 2nd and 3rd College Prizes.

**MACKENZIE (H. W. G.), Edinburgh.**
w 1882-3. 3rd Year Student, 3rd Coll. Prize.
s 1883. 3rd Year Student, 1st Coll. Prize.
w 1883-4. 4th Year Student, The Mead Medal.

**MACMURDO (H. H.), New Broad Street.**
1847. Chemistry, Hon. Cert.
1849. Midwifery, Hon. Cert.

**MANBY (W. G.), Barking, Essex.**
1851. Descriptive Anatomy, Hon. Cert.

**MARCH (H. C.), Newbury.**
1858. 1st Year Student, Treasurer's 2nd Prize.
1859. 2nd Year Student, Hon. Cert.
1860. 3rd Year Student, Hon. Cert.

**MARTIN (C. J.), Dalston.**
w 1884-5. 1st Year Student, 2nd Entrance Scholarship.

**MASON (M. T.), Newington.**
1845. Practical Midwifery, Hon. Cert.

**MAYBURY (A. C.), Frimley, Surrey**
1865. 3rd Year Student, Hon. Cert.

**MAYBURY (W. A.), Frimley, Surrey.**
1867. 1st Year Student, 3rd College Prize.

**MAYBURY (H. M.), Frimley, Surrey.**
1869. 1st Year Student, 2nd Coll. Prize;
1871. 3rd Year Student, 3rd Coll. Prize.

**MAYBURY (A. V.), Frimley.**
1870. 1st Year Student, 2nd Coll. Prize.
1871. 2nd Year Student, 1st Coll. Prize.
w 1872. 3rd Year Student, 1st Coll. Prize;
Treasurer's Gold Medal.

**MAYNARD (J. C. M.)**
1855. Midwifery, Hon. Cert.

**MEADOWS (H.), Leicester.**
1867. 1st Year Student, The William Tite Scholarship;
Phys. Soc. 1st Year's Prize.
1868. 2nd Year, Tite Scholarship;
Phys. Soc. 2nd Year's Prize.

**MILLER (B.), London.**
1845. Midwifery, Hon. Cert.;
Practical Midwifery, Prize;
Clinical Medicine, Prize.

**MILNE (C. W.), Aberdeen.**
1865. 1st Year Student, Hon. Cert.

**MITCHELL (J.), Leicester.**
1866. 1st Year Student, 2nd Coll. Prize;
Phys. Society's 1st Year's Prize.
1867. 2nd Year Student, 2nd Coll. Prize.
1868. 3rd Year Student, 2nd Coll. Prize.

**MONEY (F. J.), Offham, Kent.**
1849. Descriptive Anatomy, 2nd Prize;
Chemistry, Prize;
Materia Medica, 1st Prize;
Matriculation Scholarship, Prize;
1st Year Student Scholarship.
1850. Physiology, Prize;
Comparative Anatomy, Prize;
Descriptive Anatomy, Prize;
Medicine, Prize;
Surgery, Hon. Cert.
1851. Descriptive Anatomy, Hon. Cert.;
Midwifery, Prize;
Medicine, Prize;
Physical Society's Essay, Prize;
Surgery, Prize;
Surgery and Surgical Anatomy, Cheselden Medal;
General Proficiency, Treasurer's Gold Medal.

**MONTAGUE (A. J. H.), Wandsworth Road.**
w 1884-5. 4th Year Student, qualified for the Mead Medal.

**MORETON (J. E.), Marton, Cheshire.**
1850. 1st Year Student, Scholarship;
Descriptive Anatomy, Hon. Cert.;
Chemistry, Hon. Cert.
1851. Materia Medica, Hon. Cert.;
Botany, Hon. Cert.;
1852. Physiology, Prize;
Descriptive Anatomy, Prize;
Physical Society's Essay, Prize;
Medicine, Prize;
Surgery, Prize;
2nd Year Student, Scholarship.
1853. 3rd Year Student, Scholarship;
Physiology, Prize;
Clinical Medicine, Pres. Prize;
Clinical Medicine, Treas. Prize.
Clinical Medicine, Mr. N. Smith's Prize;
Descriptive Anatomy, Hon. Cert.;
Midwifery, Hon. Cert.;
Ophthalmic Surgery, Prize;
Medicine, Prize;
Forensic Medicine, Hon. Cert.;
Surgery, Hon. Cert.
Surgery and Surgical Anatomy; Cheselden Medal;
Gen. Proficiency, Treas. Medal.
1854. Clinical Med., Dr. Roots' Prize;
Pathology, Hon. Cert.

**MORETON (T.), Marton, Cheshire.**
1857. 1st Year Student, Treasurer's 2nd Prize;
Matriculation Examination, Classics and Mathematics, Prize.
1858. Clinical Medicine, Prize.

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1859. 3rd Year Student, Hon. Cert.; Clinical Medicine, Hon. Cert.

**Morgan (S.), London.**
1852. Descriptive Anatomy, Hon. Cert.
1853. Midwifery, Hon. Cert.
1854. Midwifery, Hon. Cert.; Forensic Medicine, 2nd Prize.

**Morris (C. K.), Spalding, Lincolnshire.**
w 1875. Prosector's Prize.

**Morton (J.), Holbeach, Lincoln.**
1861. 1st Year Student, Hon. Cert.
1862. 2nd Year Student, Hon. Cert.
1863. 3rd Year Student, Hon. Cert.

**Moxon (H. M.), Brigsham.**
1871. Prosector's Prize.

**Musson (W. E.), Birkholme, Lincoln.**
1850. Matriculation Scholarship, Prize; Descriptive Anatomy, Hon. Cert.
1851. Physiology, Hon. Cert.; Comparative Anatomy, Hon. Cert.; Medicine, Hon. Cert.

**Newby (C. H.), London.**
1870. Prosector's Prize.

**Newsholme (A.), Bradford.**
w 1876-6. 1st Year Student, 1st Coll. Prize.
w 1876-7. 2nd Year Student, 1st College Scholarship.
s 1877. Ditto 1st Coll. Prize.
w 1877-8. 3rd Year Student, The "College Scholarship," 1st Coll. Prize.

**Newth (A. H.), Kennington, Surrey.**
1865. 1st Year Student, Hon. Cert.

**Nichol (F. E.), Roupell Park.**
w 1854-5. 4th Year Student, qualified for the Cheselden Medal.

**Nichol (R.), Camberwell.**
1844. Chemistry, 1st Prize; Materia Medica, Prize.
1845. Physiology and Anatomy, Hon. Cert.; Botany, Prize; Comparative Anatomy, Prize.

**Nicholson (F. W.), Putney.**
s 1877. 1st Year Student, 3rd Coll. Prize.
w 1877-8. 2nd Year Student, Prosector's Prize.

**Nicholson (J. F.),* Brigg, Lincoln.**
w 1873. 1st Year Student, 1st Coll. Prize.
s 1873. 1st Year Student, 1st Coll. Prize.
w 1874. 2nd Year Student, 1st Coll. Prize.
s 1874. Ditto 1st Coll. Prize.
w 1875. 3rd Year Student, 1st Coll. Prize; Cheselden Medal; Mead Medal; Treasurer's Gold Medal.

**O'Callaghan (C.), Killarney.**
1847. Chemistry, Hon. Cert.; Materia Medica, Prize.
1848. Medical Reports, President's Prize; Physiology and Anatomy, Hon. Cert.; Midwifery, Hon. Cert.; Practical Midwifery, Prize; Forensic Medicine, Prize; Physical Society's Essay, Prize.
1849. Physical Society's Essay, Treasurer's Prize; Resident Accoucheur's Report, Prize.

**Orange (W.),† Torquay.**
1854. Midwifery, Hon. Cert.
1856. Midwifery, Hon. Cert.

**Ord (G. R.), Brixton.**
1858. Midwifery, Hon. Cert.

**Ord (W. M.),‡ Brixton.**
1853. Matriculation Examination, Scholarship; 1st Year Student, Scholarship; Descriptive Anatomy, Prize; Chemistry, Prize.
1854. 2nd Year Student, Scholarship; Medicine, Prize; Materia Medica, Prize; Descriptive Anatomy, Hon. Cert.; Midwifery, Hon. Cert.; Surgery, Hon. Cert.; Physiology, Prize.
1855. 3rd Year Student, Scholarship; Surgery and Surgical Anatomy, Cheselden Medal; Forensic Medicine, Prize; Pathology, Prize; Practical Chemistry, Prize; Medicine, Hon. Cert.; Descriptive Anatomy, Hon. Cert.; Physiology, Prize; General Proficiency, Treasurer's Medal.
1856. Registrar, Prize.

**Ord (W. W.), Brook Street.**
1884. 1st Year Student, 2nd Coll. Prize.
1884-5. 2nd Year Student, ‡ 2nd College Prize.

**Osborn (S.),§ Brixton.**
1870. Physical Society's 2nd Year's Prize.

**Oughton (T.), London.**
1858. Clinical Medical Assistant, 1st Prize.

**Ozanne (C. H.), Guernsey.**
1844. Descriptive and Surgical Anatomy, Prize.

**Ozanne (J.), Guernsey.**
1843. Physiology and Anatomy, Cheselden Medal; Comparative Anatomy, Hon. Cert.
1844. Medicine, Prize; Midwifery, 2nd Prize; Surgery, Hon. Cert.; Physical Society's Essay, Prize; Clinical Surgical Reports, Silver Medal.

**Page (W. H.), Cheltenham.**
s 1872. 1st Year Student, Hon. Cert.
w 1873. 3rd Coll. Prize.

* Physician to the Hull General Infirmary.

† Resident Medical Superintendent at Broadmoor Asylum.

‡ Examiner in Medicine, University of London. Physician to, and Joint Lecturer on Medicine at, St. Thomas's Hospital. Late Lecturer on Comparative Anatomy, Physiology, and Practical Physiology.

§ Assistant Surgeon to the Hospital for Women, Soho Square. Late Surgical Registrar at St. Thomas's Hospital.

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**Palmer (M. H. C.), Newbury, Berks.**
1870. Physical Society's 2nd Year's Prize.
1872. Physical Society's 3rd Year's Prize.

**Parsons (F.).**
w 1882–3. 2nd Year, Prosector's Prize.

**Pearce (G.), Salisbury.**
1860. 1st Year Student, 2nd Coll. Prize.
1861. 2nd Year Student, 2nd Coll. Prize.

**Peek (F. H.), Diss, Norfolk.**
s 1872. 1st Year Student, 1st Coll. Prize.
w 1873. The William Tite Scholarship.
w 1874. 2nd Year Wm. Tite Scholarship.

**Penberthy (J.), Redruth.**
1854. 1st Year Student, Scholarship; Descriptive Anatomy, Prize; Chemistry, Hon. Cert.
1855. 2nd Year Student, Scholarship; Midwifery, Hon. Cert.; Botany, Prize; Descriptive Anatomy, Hon. Cert.

**Pern (A.), Winchester, Hampshire.**
1865. 1st Year Student, Hon. Cert.

**Phillips (G. G.), Newcastle Emlyn.**
1859. 2nd Year Student, Hon. Cert.
1860. 3rd Year Student, 3rd Coll. Prize.

**Pickford (J. K.), Brixton.**
w 1872. 1st Year Student, 3rd Coll. Prize.
s 1872. Hon. Cert.

**Pietersen (J.), Cape of Good Hope.**
w 1883–4. Solly Medal and Prize.

**Pike (W. R.), Leicester.**
1868. Physical Society's 1st Year's Prize.

**Pike (J. B.), Leicester.**
w 1872. 2nd Year Student, Hon. Cert.
w 1873. 3rd Year Student, Hon. Cert.

**Plowman (R.), Bridgewater, Somst.**
1862. 1st Year Student. Hon. Cert.
1863. 2nd Year Student, Hon. Cert.
1865. 3rd Year Student, Hon. Cert.

**Pollard (F.), Taunton, Somerset.**
1865. 1st Year Student, 2nd Coll. Prize.
1866. 2nd Year Student, 2nd Coll. Prize; Physical Society's 2nd Year's Prize.
1868. 3rd Year Student, 1st Coll. Prize; Physical Society's 3rd Year's Prize; Cheselden Medal.

**Potter (H. P.), Denmark Hill.**
w 1872. 1st Year Student, Hon. Cert
s 1872. 3rd College Prize.
w 1873. 2nd Year Student, 2nd Coll. Prize; Prosector's Prize.
w 1874. 3rd Year Student, 1st Coll. Prize; Cheselden Medal; Hon. Cert. for Gen. Proficiency.
1875. Grainger Testimonial Prize.

**Poynder (G. F.), Clapham.**
1872. Phys. Society's 1st Year's Prize.
1874. Phys. Society's 3rd Year's Prize.

**Purkiss (A.), Kennington.**
w 1875–6. 1st Year Student, Hon. Cert.
s 1876. Hon. Cert.

**Purvis (J. P.), Blackheath.**
1861. 1st Year's Student, Hon. Cert.; Matriculation Examination, Hon. Cert.
1862. 2nd Year Student, Hon. Cert.
1863. 3rd Year Student, Hon. Cert.

**Rainbow (F.), Lower Norwood.**
1864. 1st Year Student, Hon. Cert.
1865. 2nd Year Student, 3rd Coll. Prize.
1866. 3rd Year Student, 2nd Coll. Prize.

**Rayner (H.),* Hythe, Kent.**
1862. Matriculation Examination—Physics and Natural History, Hon. Cert.; 1st Year Student, 1st Coll. Prize.
1863. 2nd Year Student, 1st Coll. Prize.
1864. 3rd Year Student, Hon. Cert.; Hon. Cert. for the Cheselden Medal.

**Relton (B.), Ealing.**
1880. 2nd Entrance Science Scholarship.

**Richardson (C. S.), Greenwich.**
1851. Surgery, Hon. Cert.
1852. Midwifery, Prize.

**Richardson (L.), Greenwich.**
1848. General Pathology, Prize.

**Ridge (J. J.), Horsleydown.**
1864. 1st Year Student, The William Tite Scholarship.
1865. 2nd Year of Tite's Scholarship; Physical Society's 2nd Year's Prize; Prosector's Prize.
1866. The Grainger Testimonial Prize.
1868. 3rd Year Tite Scholarship; Hon. Cert. for Proficiency in Surgery and Surgical Anatomy; Treasurer's Gold Medal.

**Roberts (E. A.), Birmingham.**
w 1884–5. 1st Year Student, ‡ 1st and 2nd College Prizes.

**Robinson (H. B.), Lower Norwood.**
s 1881. 2nd Year Student, 1st Coll. Prize.

**Roe (A. D.), Eccles.**
w. 1880–81. 3rd Year Student, 2nd Coll. Prize.

**Rogers (R. S.), Greenwich.**
1843. Midwifery, First Prize; Clinical Medicine, Hon. Cert.

**Rossiter (G. F.), Taunton.**
1871. 1st Year Student, 1st Coll. Prize.
w 1872. 2nd Year Student, 2nd Coll. Prize.
s 1872. 1st Coll. Prize.
w 1873. 3rd Year Student, 3rd Coll. Prize; Cheselden Medal; Treasurer's Gold Medal.

**Rouse (R. E.), Woodbridge.**
s 1880. 2nd Year Student, 3rd College Prize.

**Rudall (J. T.), Crediton, Devon.**
1853. Physiology, Hon. Cert.; Midwifery, Hon. Cert.; Medicine, Hon. Cert.; Surgery, Hon. Cert.

**Sandford (H. C.), Brixton.**
w 1872. 1st Year Student, 1st Coll. Prize.
s 1872. 2nd College Prize.
w 1873. 2nd Year Student, 1st Coll. Prize.
s 1873. 3rd College Prize.
w 1874. 3rd Year Student, 2nd Coll. Prize; Treasurer's Gold Medal.

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* Medical Superintendent Hanwell Asylum, and Lecturer on Psychology at St. Thomas's Hospital. Late Lecturer on Phsycology at Middlesex Hospital.

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**Saneyoshi (Y.), Tokio, Japan.**
w 1881-2. 3rd Year Student, 1st. Coll. Prize.

**Sankey (G. G.), Ashford, Kent.**
1864. 3rd Year Student, 3rd Coll. Prize.

**Saunders (G. M. C.), London.**
1843. Midwifery, Hon. Cert.

**Saunders (H. W.), London.**
1867. 1st Year Student, 2nd Coll. Prize.
1868. Prosector's Prize.
1869. 3rd Year Student, 1st. Coll. Prize; Treasurer's Gold Medal; Physical Society's 3rd Year's Prize.

**Saunders (W. S.), Camden Town.**
1844. Midwifery, Hon. Cert.
1845. Medicine, Prize; Midwifery, Prize; Clinical Medicine, Prize.

**Savill (T. D.), Brixton.**
w 1875-6. 2nd Entrance Science Scholarship; 1st Year Student, The William Tite Scholarship.
s 1876. 3rd College Prize.
w 1876-7. 2nd Year Student, Hon. Cert.
s 1877. 2nd Year Student, 2nd Coll. Prize.

**Scott (R. J.), Omagh, Tyrone.**
1861. 1st Year Student, Hon. Cert.

**Scutt (T.), Bere Regis.**
w 1882-3. 3rd Year Student, 1st Coll. Prize.

**Sedgwick (J.), Boroughbridge.**
1854. Descriptive Anatomy, Hon. Cert.
1855. Surgery, Hon. Cert.; Midwifery, Hon. Cert.

**Sedgwick (L. W.), Boroughbridge.**
1848. Descriptive and Surgical Anatomy, Prize; Physiology and Anatomy, Prize; Medicine, Hon. Cert.; Midwifery Prize; Surgery, Prize;
1849. Physiology, 1st Prize; Midwifery, 1st Prize; Surgery, Prize; Medicine, 1st Prize; General Proficiency, Treasurer's Medal.

**Sergeant (E.), Preston.**
1870. 3rd Year Student, 3rd Coll. Prize; Cheselden Medal.

**Sewell (E.), Little Oakley.**
1848. Physiology and Anatomy, Hon. Cert.

**Sharkey (S. J.),* Galway.**
1874. Physical Society's 2nd Year's Prize.

**Shaw (J.), Clapham Road.**
w 1874-5. 1st Year Student, 1st Coll. Prize.
s 1875. 1st Coll. Prize.
w 1875-6. 2nd Year Student, 1st Coll. Prize

**Shea (H. G.), London.**
1860. 1st Year Student, Hon. Cert.
1861. 2nd Year Student, Hon. Cert.
1862. 3rd Year Student, 2nd Coll. Prize.

**Shea (J.), London.**
1855. Midwifery, Hon. Cert.
1859. Midwifery, Hon. Cert.

* Assist.-Physician to, and Joint Lecturer on Pathological Anatomy and Demonstrator of Morbid Anatomy at, St. Thomas's Hospital.

**Sheppard (C. E.), Kensington.**
w 1873-4. 1st Year Student, 1st Coll. Prize.
s 1874. 1st Year Student, 2nd Coll. Prize.
w 1874-5. 2nd Year Student, 1st Coll. Prize.
s 1875. 1st Coll. Prize.
w 1875-6. 3rd Year Student, 2nd Coll. Prize; Physical Society's 2nd Year's Prize.
w 1876 7. 4th Year Student, the Treasurer's Gold Medal.
w 1877-8. Solly Medal and Prize, £20. Paper published in Hosp. Reports, Vol. VIII.

**Sheppard (W. J.), Kensington.**
w. 1880-81. 3rd Year Student, 3rd Coll. Prize.
w 1881-2. The Treasurer's Gold Medal.

**Sherrington (C. S.), Caius Coll., Cambs.**
w 1882-3. 6th Year, Grainger Testimonial Prize.

**Shirtliff (E. D.), Kingston-on-Thames.**
w 1882-3. 2nd Entrance Science Scholarship.

**Siddall (J. B.),† Morton, Derby.**
1862. 1st Year Student, Hon. Cert.
1863. 2nd Year Student, Hon. Cert.
1864. 3rd Year Student, Hon. Cert.; Hon. Cert. for the Cheselden Medal.

**Simmons (H. B. M.), West Indies.**
1849. Descriptive Anatomy, Hon. Cert.

**Simon (M. F.), Blackheath.**
1866. 1st Year Student, 1st Coll. Prize.
1869. 3rd Year Student, 3rd Coll. Prize; Prosector's Prize; Prize and Hon. Cert. for Surgery and Surgical Anatomy.

**Sims (G. S.), Derby.**
s 1881. 1st Year Student, 3rd Coll. Prize.

**Sissons (W. H.), Hull.**
1858. Matriculation Examination—Physics, &c., Prize.
1859. 2nd Year Student, Hon. Cert.; Clinical Medicine, Prize; Physical Society's Essay, Prize.
1860. 3rd Year Student, 2nd Coll. Prize; Physical Society's Prize.

**Skinner (W.), Stockton-on-Tees.**
1848. Botany, Hon. Cert.; Materia Medica, Hon. Cert.

**Skipper (J.), Dalston, London.**
1852. Midwifery, Hon. Cert.

**Skipton (S. S.), East Indies.**
1851. Midwifery, Hon. Cert.

**Slater (J. S.), Bath.**
1868. 1st Year Student, 1st Coll. Prize.
1869. Physical Society's 2nd Year's Prize.
1870. 3rd Year Student, 2nd Coll. Prize; Treasurer's Gold Medal.

**Slaughter (C. H.), Farningham.**
1855. Midwifery, Hon. Cert.

**Slaughter (G. M.), Farningham.**
1854. Midwifery, Hon. Cert.

**Smith (H. U.), Reading.**
w 1876-7. 4th Year Student, Cheselden Medal.

† Late Physician to H.B.M. Legation Japan.

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**Smith (R. P.),* Belvedere.**
s 1876. 2nd Year Student, 2nd College Prize.

**Smyth (H. J.), Brondesbury.**
w 1882–3. 1st Year Student, 3rd Coll. Prize.
s 1883. 1st Year Student, 1st Coll. Prize.
w 1883–4. 2nd Year Student, 1st Coll. Prize.
s 1884. 2nd Year Student, 2nd Coll. Prize.

**Snaith (F.), Boston, Lincolnshire.**
1864. 3rd Year Student, Hon. Cert.

**Solly (E.), Congleton.**
w 1883–4. 2nd Year Student, 2nd Coll. Prize.

**Solly (R. V.), Congleton.**
w 1884–5. 2nd Year Student, ‡ 2nd College Prize.

**Sprakeling (R. J.), Canterbury.**
1855. Midwifery, Hon. Cert.
1856. 2nd Year Student, Hon. Cert.; Clinical Medicine, Prize.

**Stabb (E. C.), Ilfracombe.**
w 1883–4. 2nd Year Student, Prosector's Prize.
s. 1884. 2nd Year Student, 1st Coll. Prize.

**Staddon (J. H.), London.**
1858. Clinical Medicine, Prize.
1859. Clinical Medicine, Prize.

**Stephens (J. N.), Walton-on-Thames.**
w 1876–7. Physical Society's 1st Year's Prize.

**Stephens (S. Sanders), Taunton.**
1863. Physical Society's 2nd Year's Prize.

**Stoddart (F. W.), Bristol.**
w 1877–8. 1st Year Student, 1st Coll. Prize.

**Stone (W.H.),† London.**
1854. Matriculation Examination—Scholarship; 1st Year Student, Scholarship; Descriptive Anatomy, Hon. Cert.; Botany, Prize; Chemistry, Prize.
1855. 2nd Year Student, Scholarship; Forensic Medicine, Prize; Physical Society's Essay, Prize; Practical Chemistry, Prize; Medicine, Prize; Descriptive Anatomy, Hon. Cert.; Materia Medica, Prize; Physiology, Prize; Clinical Medicine, Mr. N. Smith's Prize.
1856. Clinical Medical Prize; General Proficiency, Treasurer's Medal.

**Summerhayes (H.), Crewkerne, Somersetshire.**
1861. Matriculation Examination—Classics and Mathematics, President's Prize; Modern Languages, &c., College Prize; Physics and Natural History, College Prize; The William Tite Scholarship.
1862. 2nd Year Tite's Scholarship.
1863. 3rd Year Tite's Scholarship; Treasurer's Gold Medal.

**Summerhayes (W.), Crewkerne, Somersetshire.**
1856. Matriculation Examination—Classics and Mathematics, Hon. Cert.; Matriculation Examination—Modern Languages, Prize.

**Sutcliff (E.), Camberwell.**
1861. 1st Year, 3rd College Prize; Matriculation Examination—Hon. Cert.
1863. 3rd Year Student, 3rd Coll. Prize.

**Sutcliffe (J.), Ashton-under-Lyne.**
1869. Prosector's Prize.

**Swallow (J. D.), Reading.**
1861. 2nd Year Student, Hon. Cert.

**Sweeting (R. B.), Reading.**
1853. 1st Year Student, Scholarship; Descriptive Anatomy, Hon. Cert.; Chemistry, Hon. Cert.
1854. 2nd Year Student, Scholarship; Midwifery, Prize.
1855. 3rd Year Student, Scholarship; Midwifery, Hon. Cert.; Clinical Medicine, Treasurer's Prize.

**Sweeting (T.), Reading.**
1855. Midwifery, Hon. Cert.

**Takaki (Kanehiro), Kasumigaseki, Tokio, Japan.**
w 1875–6. 1st Year Student, 3rd Coll. Prize.
s 1876. 2nd College Prize.
w 1876–7. 2nd Yr. Student, 1st Coll. Prize.
s 1877. 2nd Year Student, 3rd Coll. Prize.
w 1877–8. 3rd Year Student, 2nd Coll. Prize.
w 1878–9. 4th Year Student; "The Cheselden Medal;" The Treasurer's Gold Medal.

**Talbot (G. T.), Kidderminster.**
1848. Medical Reports, Dr. Roots' Prize.

**Taylor (C. M.), Wrawby, Brigg.**
1871. 1st Year Student, 2nd Coll. Prize.
w 1872. 2nd Year Student, 1st Coll. Prize.
w 1873. 3rd Year Student, 1st Coll. Prize; Surgery and Surgical Anatomy, Hon. Cert.

**Taylor (S.),‡ Burton-on-Trent.**
w 1872. 3rd Year Student, Hon. Cert.

**Taylor (S. J.), Grantham.**
s 1875. 1st Year Student, Hon. Cert.
w 1875–6. 2nd Year Student, The Musgrove Scholarship.
w 1876–7. 3rd Year Student, 2nd Year Musgrove Scholarship, and 1st College Prize.
w 1877–8. The Mead Medal; The Treasurer's Gold Medal.

**Teanby (F. W.), Turnham Green.**
1851. Practical Midwifery, Prize.

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* Assistant Medical Officer, Bethlem Royal Hospital for Lunatics. Late Resident-Assistant-Physician to St. Thomas's Hospital.

† Censor, Royal College of Physicians. Physician to, and Lecturer on Physics and Natural Philosophy, and on Materia Medica at, St. Thomas's Hospital; Late Assistant-Physician to the Hospital for Consumption, Brompton.

‡ Physician North London Hospital for Consumption; Demonstrator of Anatomy, St. Thomas's Hospital.

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1852. Clinical Medicine, Junior Prize; Midwifery, Hon. Cert.

**THOMAS (L. M.), Camberwell.**
1866. 1st Year Student, 3rd Coll. Prize.
1867. 2nd Year Student, 3rd Coll. Prize.
1869. 3rd Year Student, 2nd Coll. Prize; Cheselden Medal.

**THOMAS (W. L.), Neath, Glamorgan.**
1845. Chemistry, Prize; Materia Medica, Prize.
1847. Medicine, Hon. Cert.; Physiology and Anatomy, Prize. Physical Society's Essay, Prize.

**THOMPSON (F. H.), Tenbury.**
1870. Prosector's Prize.

**THUI ICHUM (G. D.), Kensington.**
w 1878-9. Physical Society's 2nd Year's Prize.

**TIMOTHY (P. V.), London.**
1851. Practical Midwifery, Prize; Midwifery, Hon. Cert.

**TODD (A. J. M.), Gravesend.**
w 1863. 1st Year Student, 2nd Coll. Prize.
w 1864. Prosector's Prize.

**TOMSON (K.), Luton, Beds.**
1842. Materia Medica Prize.
1843. Medicine, Prize; Clinical Medicine, Hon. Cert.

**TOMSON (W. B.), Luton, Beds.**
w 1879-80. 1st Year Student, 2nd Coll. Prize.
s 1880. 1st Year Student, 2nd Coll. Prize.
w 1880-81. 2nd Year Student, The Musgrove Scholarship, Prosector's Prize.
w 1881-2, 3rd Year Student, 2nd Coll. Prize; 2nd Tenure of Musgrove Scholarship.
s 1882. 2nd Coll. Prize.
w 1882-3. Treasurer's Gold Medal.

**TONKING (J. H.), Camborne.**
w 1884-5. 3rd Year Student, ‡ 2nd and 3rd College Prizes.

**TOTSUKA (K.), Tokio, Japan.**
s 1882. 1st Year Student, 2nd Coll. Prize.
w 1882-3. 2nd Year Student, ‡ Musgrove Scholarship and 1st Coll. Prize combined.
w 1883-4. 3rd Year Student, 2nd tenure of ‡ Musgrove Scholarship, with 3rd College Prize.

**TREND (H. G.), Bridgewater.**
1853. Practical Midwifery, Prize; Midwifery, Hon. Cert.
1854. Midwifery, Hon. Cert.; Clinical Medicine, Treasurer's Prize.

**TREVES (W. K.), Dorchester.**
1863. Matriculation Examination—Physics and Natural History, Hon. Cert.; and Modern Languages and Modern History, College Prize and Hon. Cert.; 1st Year Student, Hon. Cert.
1865. 3rd Year Student, 2nd Coll. Prize; Prosector's Prize.

**TYRREL (W.), Richmond.**
1851. Descriptive Anatomy, Hon. Cert.
1852. Medicine, Hon. Cert.; Surgery, Hon. Cert.
1853. Forensic Medicine, Hon. Cert.; Ophthalmic Essay, Mr. Dixon's Prize.
1854. Surgical Reports, President's Prize.

**VARDY (J. L.), London.**
1854. Midwifery, Hon. Cert.
1855. Practical Midwifery, Prize.

**VERDON (H. W.), Eccles.**
2nd Year Student, Hon. Cert.

**WAGSTAFFE (W. W.),* Kennington.**
1862. Matriculation Examination—Classics and Mathematics, President's Prize. Physics and Natural History, College Prize; Modern Languages, &c., College Prize; 1st Year Student, Treasurer's Prize;
1863. 2nd Year Student, 1st. Coll. Prize.
1864. 3rd Year Student, 1st Coll. Prize; Physical Society's 3rd Year's Prize; Cheselden Medal; Treasurer's Gold Medal.

**WALKER (R.), Kendal.**
1854. Descriptive Anatomy, Hon. Cert.; Midwifery, Hon. Cert.
1855. Midwifery, Hon. Cert.

**WALLER (A.), Islington.**
1864. 1st Year Student, 1st Coll. Prize.
1865. 2nd Year Student, 1st Coll. Prize.
1866. 3rd Year Student, 1st Coll. Prize; Physical Society's 3rd Year's Prize; Treasurer's Gold Medal.

**WALLER (C. B.), London.**
1860. 2nd Year Student, Hon. Cert.

**WARD (F. H.),† Scarboro'.**
1863. 1st Year Student, Treas. Prize.
1864. 2nd Year Student, 1st Coll. Prize; Physical Soc. 2nd Year's Prize.
1865. 3rd Year Student, 1st Coll. Prize; Physical Soc. 3rd Year's Prize; Cheselden Medal; Treasurer's Gold Medal.

**WATSON (F.), Nottingham.**
1859. 1st Year Student, Hon. Cert.; Matriculation Examination—Physics, &c., Prize.

**WAY (F. W.), Fratton, Portsmouth.**
1853. Descriptive Anatomy, Hon. Cert.; Chemistry, Hon. Cert.;
1854. Midwifery, Hon. Cert.; Surgery, Hon. Cert.

**WAY (J. P.), Portsmouth.**
1861. 1st Year, Hon. Cert.

**WEBBER (W. W.), Crewkerne.**
w 1876-7. 1st Year Student, 3rd Coll. Prize.

**WEBSTER (E.), Lee.**
w 1883-4. 1st Year Student, 1st Coll. Prize.

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* Late Assistant Surgeon to, and Joint Lecturer on Anatomy at, St. Thomas's Hospital. Late Member of the Board of Examiners, Royal College of Surgeons.

† Assistant Medical Officer, Wandsworth Lunatic Asylum.



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**Webster (H.), Dulwich.**
1851. Matriculation Sch., Hon. Cert.; Descriptive Anatomy, Hon. Cert.
1852. Botany, Hon. Cert.
1853. Midwifery, Hon. Cert.

**Wekkes (F. H.), Southampton.**
w 1873–4. 1st Year Student, 3rd Coll. Prize.
s 1874. 3rd Coll. Prize.
w 1874–5. 2nd Year Student, 2nd Coll. Prize.
s 1875. 3rd Coll. Prize.
w 1875–6. 3rd Year Student, 3rd Coll. Prize.

**Wells (A. E.), Brixton.**
w 1877–8. 1st Year Student, 2nd Entrance Science Scholarship.

**West (J. F.)***
1853. Midwifery, Hon. Cert.
1854. Forensic Medicine, Hon. Cert.; Pathology, Hon. Cert.
1855. Ophthalmic Reports, Prize.

**Wheaton (F. D. W.), Honiton.**
1845. Practical Midwifery, Hon. Cert.

**Whitehead (J.), Preston.**
1861. 1st Year, Hon. Cert.
1862. 2nd Year Student, 3rd Coll. Prize.
1863. 3rd Year Student, 2nd Coll. Prize.

**Wiles (J.), Hitchin, Herts.**
1850. Physiology, Hon. Cert.
1851. (Accoucheur) Midwifery, Prize.

**Williams (H.), Longley, near Gloucester.**
1868. 1st Year Student, 2nd Coll. Prize
1869. 2nd Year Student, 3rd Coll. Prize.

**Williams (J.), Westerleigh Bristol.**
1855. 1st Year Student, Scholarship; Midwifery Prize; Botany, Prize; Chemistry, Hon. Cert. Descriptive Anatomy, Prize. Materia Medica, Hon. Cert.
1856. 2nd Year Student, Treas 1st Prize.
1857. 3rd Year Student, Hon. Cert. General Proficiency, Treasurer's Medal.

**Williams (J.), Doncaster.**
1858. 1st Year Student, Hon. Cert.
1859. 2nd Year Student, Hon. Cert. Clinical Medicine, Prize.
1860. 3rd Year Student, Hon. Cert.

**Williams (P. H.), Monmouth.**
s 1872. 1st Year Student, Hon. Cert.

* Late Surgeon to Queen's Hospital, and Professor of Clinical Surgery at Queen's College, Birmingham.

**Williams (P. M. G.), Newcastle Emlyn.**
1864. Practical Midwifery, Prize.

**Williams (R. M.) Beaumaris.**
1880. 1st Entrance Science Scholarship.

**Williams (W. R.),† Nottingham.**
1856. Matriculation Examination in Classics, Mathematics, Hon. Cert.

**Williamson (R. J.), Ripon.**
w 1876–7. 1st Entrance Sc. Scholarship.

**Witherby (W. H.), Croydon.**
1858. Matriculation Examination in Modern Languages, Prize.

**Woakes (E.), Luton, Beds.**
1856. 1st Year Student, Hon. Cert.
1857. 2nd Year Student, 2nd Prize; Clinical Medical Prize.
1858. Essay on Neuralgia, Mr. M. Smith's Prize; Surgery and Surgical Anatomy, Cheselden Medal.

**Wood (G. J.), London.**
1863. Descriptive Anatomy, Hon. Cert

**Wood (R. H.), Loughborough, Leicester.**
1854. Descriptive Anatomy, Hon. Cert.
1855. Surgery, Hon. Cert.; Midwifery, Prize; Medicine, Hon. Cert.; Descriptive Anatomy, Prize; Physiology, Hon. Cert.
1856. Physical Society's Essay, Prize.

**Woodhouse (T. J.), London.**
1855. Chemistry, Hon. Cert.; Materia Medica, Hon. Cert.

**Woodman (W. E.), Camberwell.**
s 1875. 1st Year Student, 2nd Coll. Prize.

**Wotton (H. G.)**
1855. Midwifery, Hon. Cert.
1856. Midwifery, Hon. Cert.

**Wrench (E. M.), Cornhill.**
1851. Descriptive Anatomy, Hon. Cert.; Physical Society's Essay, Treasurer's 1st Year's Prize;
1852. Physiology, Hon. Cert.

**Wyman (W. S.), Kettering, Northampton.**
1852. Matriculation Examination Scholarship.

† One of H. M. Commissioners in Lunacy late Resident Physician to Bethlehem Royal Hospital; late Lecturer on Mental Diseases at St. Thomas's Hospital.

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All old Students of St. Thomas's Hospital are requested to send their *present* addresses to The Medical Secretary, *St. Thomas's Hospital, Albert Embankment, Westminster Bridge, S.E.*

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